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US ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND



ANNUAL REPORT OF MAJOR ACTIVITIES

FISCAL YEAR 1975

HEADQUARTERS
US ARMY MATERIEL DEVELOPMENT
AND READINESS COMMAND
ALEXANDRIA, VA 22333

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U. S. ARMY MATERIEL DEVELOPMENT
AND READINESS COMMAND

ANNUAL REPORT OF MAJOR ACTIVITIES

FISCAL YEAR 1975
(RCS-CSHIS-6)

Prepared by

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Historical Office

Headquarters, U. S. Army Materiel Development
and Readiness Command

1 November 1976

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PREFACE

This Annual Report of Major Activities, prepared in accordance with the provisions of AR 870-5, covers the thirteenth fiscal year of the United States Army Materiel Command's (AMC) life, and the last year before its redesignation as the US Army Materiel Development and Readiness Command (DARCOM). Since much of the text was prepared prior to the reorganization, AMC instead of DARCOM is used throughout. The history was prepared in part from submissions of the headquarters staff elements and project managers discussed in the text, and in part from sources referenced in footnotes which were assembled through the operation of the DARCOM Historical Sources Collection Program and special collection efforts. The history includes summaries of selected significant topics and trends dating back some five years which will be more fully covered in the reports for fiscal years 1972-74, which are still in the process of preparation.

While change has the hallmark of the AMC/DARCOM experience as it is in any dynamic organization, the report of Fiscal Year 1975 was given priority over the reports of the preceeding fiscal years because the 1975 period reflects the changes of the several years of the post-Vietnam period and, at the same time, forecasts and provides the background for the more dramatic changes of FY 1976. Assignment of priority also required alteration in the normal AMC/DARCOM Historical Office multi-author procedures. The single author in this case was Myles G. Marken, Sr., Senior Historian and Senior Action Officer for Annual Reports and Unit (Organizational) Histories. Under this procedure, time was not available for critical and analytical review of the structure and content of the history.

The manuscript was edited and graphics arranged by Mrs. Patricia J. Parks, and it was prepared by Mrs. Parks, Mrs. Laura A. Pennix, and Mrs. Betty J. Thomas.

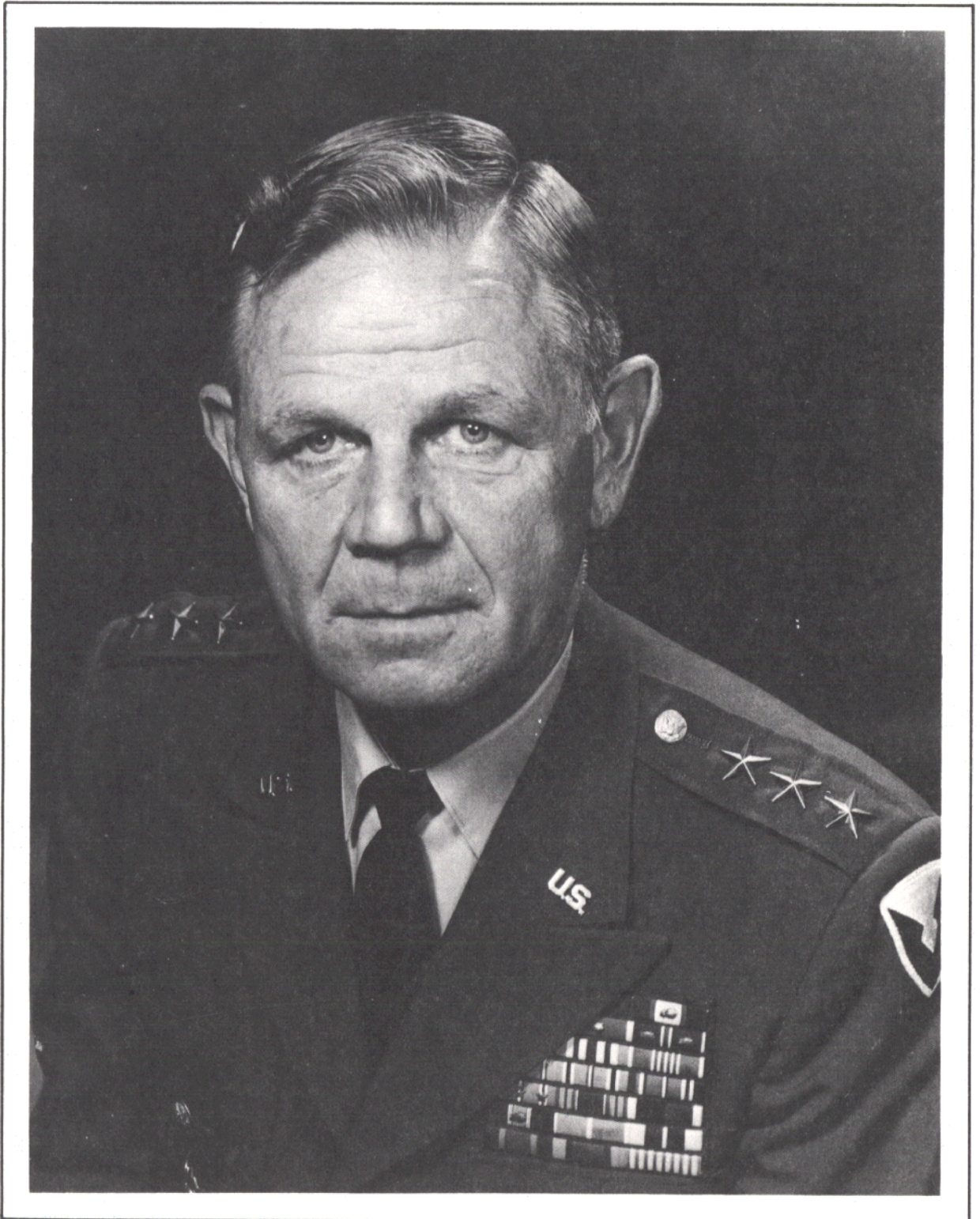
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U. S. ARMY MATERIEL DEVELOPMENT
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CHAPTER I

COMMAND MANAGEMENT

Change of Command

(U) AMC changed commanders during FY 1975. General Henry A. Miley, Jr., who had been the Commanding General of AMC since 1 November 1970, retired on 11 February 1975. On 12 February 1975, General John R. Deane, Jr., was installed as the new commander.

(U) General Miley had served AMC as the Deputy and then Director of Procurement and Production, AMC during 1964-1966 and again in 1969 as the AMC Deputy Commanding General. As the AMC commander he served during the period of the drawdown in Vietnam and the period when the emphasis in AMC was toward the improvement of materiel management processes. It was a period of declining resources and expanding demands for improved weapons and materiel management systems. It was a period of inflation and rising weapons costs and an increasing Congressional interest in the materiel acquisition processes. It was a period of realignment, reduction, reorganization, consolidation, and closure of many AMC installations and activities or of planning related thereto. It was a period when the AMC management systems and techniques were being reviewed and reevaluated. It was a time during which AMC was taking a critical look at itself.

(U) Before becoming Commander of AMC, LTG John R. Deane, Jr., had been the deputy Chief of Staff for Research, Development, and Acquisition, Department of the Army since August 1973. Previously, he had been the Deputy Director of the Defense Intelligence Agency and the Deputy Assistant Chief of Staff for Force Development. During 1966-1967, he served as the commander of the 173d Airborne Brigade in Vietnam. Following this, he commanded the 82d Airborne Division at Fort Bragg, North Carolina.

(U) General Deane assumed his new command with much enthusiasm and optimism even though he realized that AMC's image had suffered following the Vietnam war. The new commander cited adverse publicity that had been generated by the AMC experience with such programs as the Cheyenne Helicopter, AH-56, and the Main Battle Tank (MBT-70/XM803), both of which were discontinued or redirected following the Vietnam war. The AMC Deputy Commander, LTG W.W. Vaughan, echoed this view when, during a discussion regarding the difficulties of measuring performance in the R&D (research and development) area, he commented that AMC needed to do something in the development area. He commented that on "faulty, preconceived ideas" such as the Cheyenne and MBT - "the Army will never hear the end of this." However, both the new

commander and his deputy commander believed that ongoing programs that had been initiated following the war in 1970 were improving AMC efficiency, economy, and responsiveness, and both looked forward with confidence that AMC was proceeding in the right direction with proper emphasis.¹

(U) Concerning guidelines for his headquarters staff, General Deane favored a positive approach in dealings with Congress, emphasizing that when Congressional proposals are approved, counter-proposals should be offered. The new commander emphasized the need for AMC to become more responsive to Congress as a prerequisite for solving the image problem, one of the two major challenges facing AMC in General Deane's view. The second major challenge was the implementation of the AMARC, Army Materiel Acquisition Review Committee, recommendations which had been under various stages of study, planning, and execution since before the AMARC report was rendered on 1 April 1974. General Deane also revealed at least two other concerns early in this stewardship of AMC: he wished to improve customer relations and he wanted to know about problems early.²

(U) Upon assuming command, General Deane made it clear that he wished his Directors and Office Chiefs to assume their responsibilities for decision making in their respective areas. General Deane wished to retain a system of coordination among his staff, but emphasized that he did not want the AMC decision-making process to become mired down in nonconcurrences. What the commander wanted was a system whereby decisions would be made when the decision-maker was comfortable about the soundness of the decision. Decisions needed to go to top levels for resolution only when there were legitimate reservations requiring such resolution. The commander wished to place the decision making authority at the level at which the process would be most productive and least complicated and cumbersome.³

(U) General Deane's concern regarding decision-making was shared Army wide. On 16 May 1975, the Vice Chief of Staff of the Army, General

¹(a) GEN. DEANE: "Reorganization Begins; RIF Predictions Difficult," AMC NEWS, HQS, USAMC, Alexandria, Virginia, VOL. 3, Number 10, August 1975, p. 1, (b) HQS AMC "CAMERA Briefing on AMC Overall Performance Indicator Review and Analysis (OPIRA)," 3d Qtr, FY 1975, HQS AMC Comptroller Directorate (Notes taken by AMC Historian, Myles G. Marken, Sr.)

²Ibid. Item (a).

³Memorandum, AMCCS to Directors and Separate Office Chiefs, 28 April 1975, subject: Staff Actions, signed Robert L. Kirwan, USA, BG, Chief of Staff, AMC.

Walter T. Kerwin, Jr. informed General Deane that the Secretary of the Army was concerned about the Army's planning and decision-making process. The Secretary's concern was reinforced by a lessons learned analysis of the Army's management processes. The analysis made three main points regarding management decisions: decisions should be based upon complete data, decisions should be made in a climate of complete communications among those involved without entangling them in excessive coordination, and responsibility for decisions and actions should be fixed. The AMC Commander added a fourth point in his reply to the Army Vice Chief of Staff which was also included in his instructions to his materiel managers. He believed that the execution phase of the decision should be tracked so the loop could be closed in the management process. 4

(U) Another primary goal that General Deane set for AMC was improvement of customer relations which he believed centered around user satisfaction with fielded equipment. What he wanted was closer and more concerned relationship with the soldier in the field during the initial fielding and operational usage of equipment. Under the impetus of the Project Hand-Off study, AMC evolved a program in June 1975 the aim of which was to improve initial fielding of AMC materiel. Included in this program was, that for selected systems, AMC would make a commitment to the user. It worked as a sort of guarantee not unlike that employed by some of the better commercial enterprises. The purpose of the commitment was to demonstrate that AMC stood behind its equipment and would leave no stone unturned in the satisfaction of the soldiers' needs. The Project Hand-Off Program was product oriented and made use of an actual written commitment of equipment performance specifications, which, when given to the user, was intended to upgrade AMC initial fielding operations. 5 This was an extension of the AMC R&D User Interface program conducted through an R&D Field Liaison Division that had been established in the US Army Materiel Systems Analysis Activity at the Direction of the former AMC Commander, General Henry A. Miley, Jr., on 1 July 1974. 6 The R&D Field Liaison Division

4

(a) Letter, AMCCP-RA, John R. Deane, Jr., General, USA to General Walter T. Kerwin, Jr., Army Vice Chief of Staff, 27 February 1975, subject: Management Process; (b) Letter, AMCCP-RA, John R. Deane, Jr., General, USA, to AMC Subordinate Commanders, Project Managers, HQS Directors and Office Chiefs, 27 May 1975, subject: Management Process.

5

Letter, AMCPA-S, Robert L. Kirwan, Chief of Staff, AMC, to Commander -in-Chief, US Forces Korea and Eighth Army, 1 July 1975, subject: R&D User Interface.

6

Letter, AMCQA, John R. Deane, Jr., General, USA, Commander, AMC, to AMC Subordinate Commanders, Project Managers, HQS Directors and Office Chief, 16 June 1976, subject: Materiel Fielding and the AMC Commitment to User Satisfaction.

consisted of a small group of multidisciplinary engineers combined with experienced military personnel used to identify user problems, surface these problems in the R&D community, and track solution progress responding to respective users. 7

(U) General Deane had a close, personal interest in the user interface and satisfaction program. When the M60A2 Tank was introduced into USAREUR in June 1975, General Deane wrote to General Michael S. Davison, Commander-in-Chief, US Army, Europe and Seventh Army, and reviewed the status of the M60A2 program. He also informed General Davison of the new AMC commitment to user satisfaction. Accompanying General Deane's letter was AMC's "Statement of Quality and Support - European Deployment of the M60A2 Tank," which set forth AMC's determination to stand behind its product. General Davison was told that the total resources of AMC were pledged to the support of the M60A2 Tank. 8 General Deane had also made a personal visit to USAREUR and Seventh Army in June 1975 to discuss initial fielding and other logistics problems. Each commander found the discussions to be mutually beneficial. 9 Facilitating AMC-User interface and improving materiel management processes were given special emphasis during the first months of General Deane's tenure as Commander, AMC.

Major Emphasis - Overview (1970-1975)

(U) In the area of command management for AMC, FY 1975 proved to be a year not unlike the previous one-half dozen years. It was a year during which a major portion of the command's energy and resources were devoted to the improvement of the materiel acquisition process. During the entire period, AMC had been in a continuous state of restructuring and reduction. This effort had been going on intensively since about 1968 when the Department of Defense (DOD) initiated a system designed to monitor costs attendant with the acquisition of more than fifty selected weapons systems. Congressional interest in the spiraling acquisition costs prompted that body to adopt the DGD

7

Memorandum of Understanding, between LTG W. C. Gribble, Jr., Chief of Engineers and General Henry A. Miley, Sr., Commander, AMC, 4 November 1974, re: user's materiel related problems.

8

(a) Letter, John R. Deane, Jr., Commander, AMC., to General Michael S. Davison, Commander-in-Chief, US Army, Europe, and Seventh Army, 23 May 1975, subject: Status of M60A2 Deployment; (b) Letter, AETSCG, LTG USA George S. Blanchard, Commander, VII Corps, to General John R. Deane, Jr., Commander, AMC, 19 June 1975, re: status of M60A2 Tank deployment.

9

Letter, AEAGD-SM-P, MG H.B. Gibson, Jr., Deputy Chief of Staff, Logistics, DA, to MG Joseph W. Pezdirtz, AMC Deputy CG for Logistics Support, 30 June 1975, re: General Deane's visit to USAREUR and Seventh Army.

system that was known as SAR (Selected Acquisition Report), a quarterly reporting system that measured cost changes throughout the acquisition period of each weapon selected for monitoring. Spurred by its own frustrations regarding rising costs, and the intense interest of the Congress in controlling weapon costs, the period of 1970-1975 was one which saw numerous management programs instituted in AMC calculated to improve materiel acquisition and reduce the costs of weapons. 10 A somewhat sketchy description of some of the current major programs or that took place in the Army and AMC during the period 1970-1975 bearing upon materiel acquisition follows.

PROMAP-70

(U) During FY 1970, AMC had been heavily involved with PROMAP-70, the program for the Refinement of the Materiel Acquisition Process in 1970. This was an interim program instituted by then Commanding General, AMC, Ferdinand J. Chesarek, Jr., that involved over three hundred top managers in an effort to improve materiel acquisition management command wide. PROMAP-70 was aimed at problems in five distinct areas: excessive optimism in cost estimates, controlling numerous changes in on-going programs, comprehensive assessment of risk before system development, assuring the use of competitive prototypes in development, and maintaining concurrent development and test evaluation. An in-depth program, PROMAP-70 contained more than 50 separate tasks. Of primary concern was the improvement of project management. In 1969, project management had been decentralized; many projects were moved out of AMC headquarters and/or assigned to the major subordinate command of related and primary interest. This was done to lessen the span of control of the AMC commander and allow for closer scrutiny at the major subordinate command level. The location of the Project Manager adjacent to the technological support complex of the commodity command including laboratories, procurement offices, national inventory control points and national maintenance points fostered a complementary relationship of Project Managers with the directly related functional operators and promoted in-depth application of professional capabilities. 11 In conjunction with the PROMAP-70 improvements

10

Hearings, Subcommittee on Economy in Government of the Joint Economic Committee, Congress of the United States, entitled: "The Acquisition of Weapons Systems," William Proxmire, Chairman, December, 1969, US GPO, Washington, 1970, pp. 54-57; Report, Committee on Armed Services of the US Senate, entitled: Authorizing Appropriations for the Fiscal Year 1975 for Military Procurement, Research and Development . . . and other Purposes, John C. Stennis, Chairman, May 29, 1974, US GPO, Washington, 1974, pp. 17-19.

11

Letter, AMCSA-PM to AMC Major Subordinate Commands, 27 August 1969, subject: AMC Project Management Guidance.

of project management, was a corollary improvement of Project Managers. Thus the program also addressed itself to the strengthening and upgrading of criteria for the selection of project managers and to their training prior to their assignments. The PROMAP-70 system, which had its birth in a request of 31 Jul 1969 of Deputy Secretary of Defense, David Packard, also emphasized the need for a system of quality reviews but not excessive reviews. 12

RECAP - Review and Command Assessment

(U) Responding to the Deputy Defense Secretary's requirement that the evolving acquisition improvement system include a program of quality reviews, in the 4th Quarter, FY 1971, AMC established its RECAP, Review and Command Assessment of Projects, review system to gauge the efficiency, effectiveness, and progress of its major project managed systems. RECAP briefings were prepared by project managers of key AMC project managed programs for presentation to the Commander or one of the Deputy Commanders. The AMC Commander reviewed those programs that were required to submit SARs, Selected Acquisition Reports, to the US Congress. The Congress was interested in SARs for certain selected major programs. RECAPs to the commander were presented quarterly, and provided the information upon which to base the DAPR (Department of the Army Progress Report) required by the Secretary of the Army concerning the status of major systems. The Deputy Commanders, AMC, reviewed Non-SAR projects each four months. The Deputy Commanding General for Logistics Support reviewed projects in the logistics readiness area and the Deputy Commanding General for Materiel Acquisition reviewed projects in the materiel development area. The RECAPs were to provide concise and timely information on which to monitor the progress of the projects, provide guidance, and to make program decisions as required. 13 The RECAP system of reporting materiel acquisition, weapon system development was the primary concern, continued into and throughout FY 1975 and proved beneficial for monitoring progress at all levels. What General Henry A. Miley, who became the AMC commander in November 1970, secured was meaningful rather than crisis reporting.

(U) However, by early in calendar year 1975, the AMC Deputy Commander, LTG W. W. Vaughan had to inform the AMC subordinate commanders and project managers that "problems surfaced during RECAPs have indicated that the full benefits to be derived from searching early design reviews are not being realized." General Vaughan added that it was the judgment of the AMC command group that development could not be achieved without the institution of penetrating In-Depth Design

12

Address, MG Paul A. Feyereisen, DCG for Materiel Acquisition, US AMC, to Armed Forces Management Association, Ft. McNair, Washington, DC, 7 April 1970.

13

Letter, AMCRD-ES, to AMC Subordinate Commander and Project Managers, 8 January 1975, signed W. W. Vaughan, subject: In-Depth Design Reviews.

Reviews (IDDR). The Deputy Commander also informed the subordinate commanders and project managers that AMC Headquarters was developing regulations to require all AMC developers to conduct IDDRs on major in-house and contract development programs. IDDRs were to be required at scheduled key nodal points in the development cycle and would be in the development plan. One key nodal point was identified as after completion of the preliminary design drawings but prior to construction of prototypes. A significant technical modification would also trigger an IDDR. 14

(U) In the area of review of non-major systems, AMC had a system whereby mandatory In-Process Reviews (IPRs) were scheduled periodically to review programs and to make recommendations for future courses of action. With both the materiel and combat developers serving as members of the review panels, requirements for systems were reviewed and revalidated as required. Additionally, during materiel acquisition, special IPRs must be conducted for projects in engineering development at intervals not to exceed 24 months for the purpose of making technical assessments. In January 1975, a proposal was under consideration for requiring special IPRs annually. Review of non-major systems was also conducted quarterly within the RD&E Directorate of AMC. Input for these status reviews was obtained from the Quarterly Materiel Acquisition Technical Milestones Report which was prepared and submitted by the appropriate subordinate AMC activity. Regarding review of AMC non-major programs, AMC Commander, General Henry A. Miley was confident that these reviews, when executed properly, would provide adequate management visibility. 15

FOLON-71

(U) The PROMAP-70 program was terminated on 31 December 1970. Then in March 1971, the new AMC Commanding General reviewed the results of PROMAP-70 with the Assistant Secretary of the Army, Dr. Ronald J. Fox. It was clear from this review, that although there had been significant accomplishments in materiel acquisition during FY 1970, there was still much remaining to be done. It was decided that a few actions would be selected for follow-on during FY 1971, and that these would be pushed aggressively. The program became known

14

Letter, AMCSA-PM to AMC Commander of Major Subordinate Commands, HQ, AMC Directors, and AMC Project Managers, 24 April 1971, subject: Review and Command Assessment of Projects (RECAP), with 3 Incls: General Instructions, Schedule, and Charts, signed John R. Guthrie, MG, DCGMA. (In PROMAP - Project Manager Orientation, Vol. III, General Information; AMCR 1-34, 17 July 1972; DARCOM-R 1-34, 25 February 1976).

15

Letter, AMCRD-PT, from General Henry A. Miley to the Assistant Secretary of the Army, Norman R. Augustine, 17 January 1975.

as FOLON-71. The program identified by General Miley encompassed four categories: training of personnel, trade-off analysis, contracting procedures, and technical data and control of changes.

IMPACT - Improved Management of Procurement and Contracting Techniques

(U) The system as it ultimately evolved was called IMPACT, Improved Management of Procurement and Contracting Techniques. Involved were such things as the selection and training of project managers, enhancement of procurement and research and development careers, training of negotiators in a new system of effective and efficient contracting known as the "should cost" principle, trade-off analysis between materiel need and risk analysis, and technical data and control of changes which involved such things as reduction of cost growth data requirements from contractors. 16

Design-to-Cost

(U) A major problem facing Army weapons systems managers was cost growth. A tremendous cost growth in weapons system acquisition had been highlighted over the past several years by several Congressional committees; particularly the Joint Economic Committee of the US Senate headed by Senator William Proxmire of Wisconsin and numerous other governmental and private agencies such as the Blue Ribbon Defense Panel, the National Security Industrial Association, RAND Corporation, the Commission on Government Procurement, and the General Accounting Office. The major causes of cost growth were found to include: the increased complexity of systems; the greater capabilities demanded; inflation; estimating errors; and changes in requirements. Increased acquisition costs were impacting on force levels which needed to be reduced in some cases. Unit costs of weapons systems had risen to such an extent and funds available were so limited that a considerable disparity between requirements and resources had developed. This was recognized by the Department of Defense in July 1971 when DOD issued a directive concerning a materiel acquisition program based upon design-to-production unit cost. 17 The program continues as the "Design to Cost Program." As implemented, "Design to Cost" was the process for utilizing cost goals as thresholds for managers and as design parameters for engineers. The dollar value for each cost goal in the system represented what the government had established as an

16

(a) Briefing, AMC Comptroller, BG H. E. Hallgren, to the DAIG, 8 July 1972; (b) Release 71-47, 15 March 1971, AMC Information Office, subject: Follow-on Action to PROMAP-70.

17

AMC Pamphlet 777-6, 3 October 1973, entitled Joint Design to Cost Guide - A Conceptual Approach for Major Weapon System Acquisition, DA Navy, and the Air Force.

amount it could afford to pay or was willing or able to pay for a unit of military equipment or major subsystem meeting established and measurable performance requirements at a specified time. The "Design to Cost" system was implemented to reduce costs, not to justify them. The system was new for the defense establishment but had been used for years commercially. Though "Design to Cost" presents many challenges to AMC and its materiel acquisition processes, and it is too early to pass judgment upon the success or failure of the system; yet, evaluations of progress on the development of two major systems which had been prior failures for the Army, an attack helicopter and a main battle tank, proved promising. The evaluations made in FY 1975 were that these systems, now the Advanced Attack Helicopter and the XM-1 Tank, were being developed within established goals. 18

TOAMAC - The Optimum Army Materiel Command

(U) In conformity with its program to strengthen project management and the entire materiel acquisition process command-wide, throughout the period of the 1970s, AMC was planning for and making organizational changes seeking The Optimum Army Materiel Command (TOAMAC). Consolidations, realignments, reductions, and closures that took place or were planned were all part of an evolutionary process that had been taking place since the Army Materiel Command was formed in 1962 through a combination of the old Army Technical Services. Such reorganizations even took place during the Vietnam war. Though the AMC depots were concerned with the storage, supply, and maintenance of materiel rather than with development and acquisition, the first reorganizational realignments resulting from TOAMAC I pertained to the depots. As early as March 1970, AMC was working on plans for restructuring its depots and had proposed a concept known as depot complexing that envisioned three complexes, each consisting of a headquarters depot and several member depots, in the west, central, and eastern sections of the country. AMC set this concept aside when it concluded it could achieve complexing benefits with a service center concept, without incurring the overhead command-layering costs that complexing would introduce. The depot concept as ultimately implemented emerged from an AMC task force that was formed in January 1972 to develop an optimum AMC depot system for fiscal years 1972-1976 that would operate at a minimum cost in peacetime and be capable of expansion during mobilization and to prepare a 5-year depot master plan to implement the optimum system. 19

18

"Design to Cost," Defense Management Journal, Special Issue, September 1974, pp. 36-40.

19

Report to the Congress by the Comptroller General of the United States entitled: The Army Reorganization for the 1970s: An Assessment of the Planning, 13 August 1973, pp. 43-45.

CONCISE

(U) Under TOAMAC I, depot operations at the Atlanta Army Depot were discontinued and the Umatilla Army Depot, Oregon, was subordinated under the Tooele Army Depot, Utah. Several other depots were scheduled for phase down, placement in reserve status, or closure, but this phase of the AMC realignment merged within the general reorganization of the Army in 1973 and became known as the CONCISE realignments. This came about when in late 1973, the Army developed a series of studies called TOAMAC II that led to a number of recommendations that were approved by DA and known as Project CONCISE. Project CONCISE realignment was made necessary because excess physical capacity, a reduced maintenance workload, and a need to improve services called for the disestablishment of the AMC Land Warfare Laboratory and the AMC Advanced Concepts Agency plus the relocation (subsequently disestablishment) of the Coating and Chemical Laboratory, all of which were scheduled and effected for 30 June 1974. In November 1974, the remaining CONCISE realignments were announced and included: the closure of Frankford Arsenal; the reduction of Savannah, Lexington-Blue Grass, and Pueblo Army depots to activity status; and the transfer of maintenance responsibilities of Sharpe Army Depot to the Corpus Christi and New Cumberland Army Depots. The US Army Depots Sierra, Savanna, and Seneca were to reduce levels of activity. These CONCISE realignments, reductions, and closures began 1 July 1975 and were anticipated to be accomplished over a period of several years. 20

AMC/Army Reorganization - 1973

(U) Other major AMC reorganizations taking place concurrently with CONCISE planning and in conformity with TOAMAC I planning and implementation and the 1973 reorganization of the Army, all actions designed to improve the Army and AMC capability for the design, development, procurement, and distribution of materiel included: the consolidation of the Munitions Command, including the Ammunition Procurement Supply Agency, and the Weapons Command into a single Armaments Command at Rock Island, Illinois; the consolidation of elements of the Electronics Command headquarters then located in Philadelphia with the bulk of the headquarters located at Fort Monmouth, New Jersey; and conversion of the Mobility Equipment Command into the Troop Support Command. These 1973 reorganizations of the AMC major subordinate commands were TOAMAC I realignments.

(U) Other AMC realignments scheduled of lesser import, but still of considerable importance to logistics efficiency included: the termination of the mission, functions and organization of the US Army Maintenance Board at Fort Knox, Kentucky; the termination of the AMC

Maintenance Support at Letterkenny Army Depot, Chambersburg, Pennsylvania; the termination of the AMC Logistics Data Center at the Lexington-Blue Grass Army Depot at Lexington, Kentucky; and the termination of the AMC Test Measurement and Diagnostic Equipment Technical Coordinating Office, Rock Island, Illinois; and the establishment of the AMC Maintenance Support Agency at Lexington, Kentucky. In addition, the Jefferson Proving Ground was to receive increased mission responsibilities, the Army Support Center at Richmond was to be disestablished, and Deseret Test Center elements then located at Fort Douglas, Utah, were to relocate to Dugway Proving Ground, Utah. 21

(U) Within AMC, it was recognized that the 1973 Army reorganization would bring AMC into closer day-to-day actions with two new Major Army Commands: TRADOC (Training and Doctrine Command), FORSCOM (Forces Command), and the Army Logistics Center, that were created by the Army reorganization. There were also indications that AMC would need to interface more closely with the other services, DSA and GSA, particularly in the areas of maintenance and supply interservicing and cooperative use of research and development activities and management capabilities. It was seen that AMC, FORSCOM, and TRADOC would have direct interface at the installation level since each of the new commands and AMC would contain major installations, and in many cases there would be host-tenant relationships between and among these commands.

(U) Specifically, AMC saw its main thrust with FORSCOM as in the readiness area with most interface arising over the availability of major items for TO&E fill, test sets, modifications, repair parts availability, technical assistance, and support for contingency plans. AMC viewed interface with TRADOC thrusting primarily in the development of ROCs (Required Operational Capability), materiel requirements, support requirements for new systems, and increased attention for hardware testing. AMC expected the Army Logistics Center to present a prime area for interface in that the responsibilities of the center were of major interest to AMC. Responsibilities of interest to AMC included: development of logistics systems, doctrine, supporting organizations from industry to the soldier; assuring that retail logistical systems were compatible with AMC, DSA, and GSA; development of materiel concepts; placing approved logistical doctrine into the school system; and acting as principal advisor to AMC on logistical matters, including career development of logistical personnel.

(U) Areas of existing interface expected to increase with the reorganization were with the overseas commands in the area of Direct Supply Support (DSS), Direct Exchange Wholesale (DXW), possible relocation of overseas stockage to CONUS, a shifting depot maintenance

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Bulletin, US Army Materiel Command News, 11 January 1975; DF, AMCPA-O to HQS, AMC Directorates, Project Managers, Separate Staff Offices, 15 March 1973, from the AMC, C/S, BG Robert L. Kirwan, subject: Implementation of TOAMAC I.

posture, and deployment of and technical support for new weapons. Interface would continue with the other services mostly through the activities of the Joint Logistics Commanders; however, these activities were expected to increase and consideration was being given to including DSA and GSA within these deliberations. International logistics interface was on the increase in areas of quality assurance, and in such unique projects such as PM-SANG with the possibility of a PM for Iran on the horizon. AMC was beginning to view such PMs as "Mini-MAAGs."

(U) Realizing that AMC would be operating in a new environment following the Army and AMC realignments, the AMC Chief of Staff, MG Joseph W. Pezdirtz directed that AMC review its relationships and determine requirements for AMC interface and how these were being met with a progress report required not later than 1973. 22

AMARC - Army Materiel Acquisition Review Committee

(U) Short on the heels of the 1973 Army reorganization and while AMC was trying to implement and/or digest changes resulting from the Army reorganization and its own TOAMAC and CONCISE realignments, the Secretary of the Army established the Army Materiel Acquisition Review Committee (AMARC) in December 1973 to make a comprehensive review, analysis and critique of the Army's materiel acquisition process and to submit recommendations for improvement, with concentration on organization (especially AMC) and procedures. In addition to searching out key problems and acquisition system fundamentals that may have led to problems, the AMARC group sought solutions. The AMARC group was also challenged to search out strengths as well as weaknesses and to make recommendations looking to improve on weaknesses. 23

(U) The AMARC group was preponderantly a non-governmental and non-military body. Several members were drawn from industry having experience with working with the services, NASA and AEC. Several of the members also had ongoing high-level corporate responsibility commensurate with that of top Army managers. Many of the AMARC group had experience attacking the materiel acquisition process for various DOD committees or for such private agencies as the National Security Industrial Association. The group admitted to several preconceptions (pre-bias). These pertained to a view that the Army had lagged behind the other services in updating its materiel acquisition process, that the Army had its share of weapon development failures, that the Army had a long history of rejecting ideas not originating in its own laborator-

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Memorandum for AMC Director, Plans and Analysis, from AMC, C/S, MG Joseph W. Pezdirtz, 25 July 1973, subject: AMC Interface with Other Commands/Agencies.

23

Report of the Army Materiel Acquisition Review Committee (AMARC)
Vol. I, Précis, 1 April 1974, p. 1.

ies and arsenals, that within AMC, vestiges remained of the old technical service approach to materiel development, that the Army weapon development cycle was too long, that the Army placed less dependence upon contractor capabilities than other services, and that the Army's custom of rewarding its top combat commanders with top DA assignments involving considerable managerial and business type functions was anachronistic. 24

(U) The instructions given to Dr. Wendell B. Sell who **was** named to direct the AMARC investigations on 6 December 1973 by General Fred C. Weyand, Vice Chief of Staff, and the Honorable Herman R. Staudt, the Under Secretary of the Army, via memorandum of that date included the goal to recommend and organize a procedure that would: be responsive to the needs of the Army in the field, assuring that effective equipment is introduced into the inventory in an efficient and timely manner; would require less personnel, and Army owned or operated facilities; would have a proper balance of headquarters and field personnel; would contain a proper balance between in-house and contractor operations; and would be conducive to assuring development, fabrication and user verification of hardware items more closely meeting established requirements prior to heavy production. Working within a short deadline, by mid-January, Dr. Sell made known some preliminary perceptions. He found that the materiel process was probably overmanaged, but morale was high. 25

(U) At the time that Dr. Sell transmitted the final AMARC report and recommendations to the Secretary of the Army, an AMC planning group was engaged in a TOAMAC III effort continuing to examine the AMC structure and organization with the aim of achieving further improvement in materiel management with reduced resources. 26 Consequently, many of the AMARC recommendations were either under contemplation or at various stages of implementation. The AMARC group had been divided into teams exploring: Requirements and Concepts, Development, Production, Costing, Testing, and Science and Technology. The report released to the Secretary of the Army on 1 April 1974 included recommendations in all of these areas plus some general recommendations. Some of the AMARC recommendations already implemented Army-wide included: strengthening the Army organization for materiel acquisition by designating a single DA staff agency (Chief of Research, Development and Acquisition), which had been created in a May 1974, Army staff reor-

24

Ibid, p. 2; Memo. Dr. W. B. Sell, AMARC Director to Under Secretary of the Army, 17 January 1974, subject: Debriefing of Secretary of the Army on recent AMARC meeting.

25

Op. Cit., AMARC Precis, p. A-2.

26

Letter, AMCPA, to LTG Edward M. Flanagan, Jr., Comptroller of the Army, from LTG W. W. Vaughan, DCS, AMC, signed Woodie, dated 4 March 1974.

ganization to monitor the process; 27 directing the US Army Operational Test and Evaluation Agency to report directly to the Army Chief of Staff; transferring the US Army SAFEGUARD System Evaluation Agency analytical capability from SAFEGUARD to TRADOC; and improving the materiel acquisition personnel posture through a personnel development program which would grant proper recognition to the project manager because of his value as a resource manager. 28

(U) The AMARC recommendations that had already been implemented by AMC included; linking schedule estimating efforts to the cost estimating effort; recognizing the presence of estimating bias and uncertainty in the design-to-cost goals; appointing the project manager or higher level as the determining official in administration of award fee contracts; experimenting in the use of commercial warranties; reporting utilization rates for new machine tooling for the first five years (or until the investment is amortized) after installation of the new equipment in order to validate the benefits stemming from the investment; and maintaining a climate for innovation in acquisition. 29

(U) The AMARC report was a comprehensive and detailed document covering practically all phases of materiel acquisition and logistics management generally. Though a vast majority of the numerous recommendations made were approved by the AMC commander, yet throughout FY 1975 and beyond, the proposals would be studied by Army and AMC planners. By far, the most important changes proposed were in the areas of development, science and technology, and testing. Under consideration in the testing area was the recommendation to split developmental testing and operational testing, keeping developmental testing in AMC but shifting operational testing to TRADOC and the Operational Test and Evaluation Agency (OTEA) at Fort Belvoir, Virginia. The testing plan also called for transfer of the Modern Army Selected Systems, Test and Review (MASSTER) from FORSCOM to TRADOC and the test boards from US Army TECOM to TRADOC. 30

(U) In the area of development major proposals were made to: define requirements concisely with users participating actively in the development process; to avoid locking into a materiel requirement or a Required Operational Capability (ROC) before prototype hardware demonstrates the required performance capabilities; and to have AMC evolve toward separating the management of new weapon systems and major product improvements from logistics management. This was the major proposal of the AMARC committee and called for the establishment of six development centers. The committee recommended that AMC

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Letter, DAAG-PAP-A (M) (1 May 74) DACS-XSM, to Army Staff Offices and TAG Major Commands, 6 May 1974, subject: Reorganization of the Army Staff, signed MG Verne L. Bowers.

28

"DA Makes AMARC Study Public," AMC NEWS, September 1974, pp. 2,7.

29

Ibid.

30

Ibid.

slowly consolidate: its laboratories; its installation and commodity command research, development and engineering (RD&E) elements, project managers; support elements; selected user elements; and command elements into mission-oriented development centers. Logistics and readiness functions would be performed in logistics centers according to the AMARC suggestions. Implementation of the development center concept was envisioned by the AMARC team as follows:³¹

"Create new Armaments Development Center at a single location through evolutionary process, by consolidating selected elements of Frankford, Picatinny, Rock Island, and Watervliet Arsenal RD&E activities together with Ballistics Research Laboratory and portions of ARMCOM RD&E Directorate. Incorporate Edgewood Arsenal missions without relocation. Retain minimum essential engineering functions at other arsenals to support required production activities.

Establish a Communications Development Center by consolidating Communications ADP Laboratory, Electronics Technology and Devices Laboratory, Electronics R&D Technical Support Activity, SATCOM RD&E elements, and portions of ECOM RD&E Directorate.

Evolve to Combat Support Development Center in Washington/Ft. Belvoir area by assigning Harry Diamond Laboratories additional missions of combat surveillance and target acquisition, and consolidating with Night Vision Laboratory, Mobility Equipment Research and Development Center (MERDC), Natick Laboratories (without relocation), possible Human Engineering Laboratory (HEL), and minimum elements from TROSCOM RD&E Directorate. Appoint project manager for Tri-Service Food RDT&E Program located at Natick to report directly to AMC.

Evolve to Air Mobility Development Center at Moffett Field, California, as long-term goal by consolidating AVSCOM RD&E Directorate, Air Mobility R&D Laboratory, and an engineering and systems integration facility. Early actions to support this evolution would be: (a) consolidation of Eustis Directorate mission with other portions of Air Mobility R&D Laboratory now collocated under cooperative agreements with NASA, (b) transfer of airdrop equipment R&D mission from Natick to AVSCOM, and (c) transfer of Avionics R&D mission from ECOM to AVSCOM.

Create Ground Mobility Development Center by modifying mission of existing TACOM Laboratory to establish: (a) a gov-

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Op. Cit., AMARC Précis, p. 26.

ernment-staffed engineering and test facility; and (b) a contract-operated R&D facility.

Transfer Electronic Warfare (EW) Laboratory and mission to Army Security Agency, except that AMC should retain electronic counter-counter-measures (ECCM) and vulnerability activities for missiles, communications, and non-communication systems."

(U) AMC managers devoted a major portion of FY 1975 studying and implementing the numerous AMARC proposals. At the end of FY 1974, MG George Sammet, Jr., then AMC's Deputy Commanding General for Materiel Acquisition, indicated that AMC agreed with more than ninety percent of the recommendations and was moving toward implementation of these. The AMARC committee had recommended an evolutionary implementation; however, within two years after the AMARC report was released, the AMC commander, General John R. Deane, Jr., was able to report that the majority of the seventy-one AMARC proposals had been implemented. 32 In fact, even though the major reorganizations attendant with the creation of new development centers splitting off from the former commodity commands would not be implemented until after more study and planning, two laboratory centers under TROSCOM (NATICK and MERDC) were established as separate research and development centers on 23 January 1975, and placed under the direct control of General Sammet. This was the first major move toward separating the research and development mission from the AMC logistics or readiness mission. 33 Later, these and other AMC research and development elements would be elevated to command status and co-equal with the AMC commodity commands as the AMARC implementations moved into FY 1976 and became enmeshed with an internal reorganization of Headquarters AMC of that year.

Improving Quality of External-Audit Positions

(U) In December 1974, AMC instituted a program the aim of which was to improve the quality of external audit position statements prepared in response to external audit reports issued by the General Accounting Office and the Army Audit Agency. The AMC Deputy Commander, LTG W. W. Vaughan, was concerned that past experience had indicated that the quality of AMC's positions was "well below that standard of excellence which we have a right to expect." 34 General Vaughan believed that much of the problem related to the fact that AMC directors

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(1) "AMC General Discusses AMARC Findings," AMC NEWS, June 1974, p. 1.; (2) "A New Way of Doing Business," Soldiers, June 1976, p. 21, by SFC Floyd Harrington.

33

(1) HQ AMC General Orders No. 34, 7 March 1975; (2) Letter, AMCPA.

34

Memorandum, AMCCP-IA to all AMC Directorates and Separate Staff Offices, 2 December 1974, subject: Quality Improvement for External-Audit Positions, and Incl.

and office chiefs did not always actively participate in the position preparation process. Citing GAO and AAA reports collectively as major analyses of AMC's stewardship and of major concern in a time of declining resources, General Vaughan requested that future proposed positions on final external audit reports be approved and signed by the director or deputy director depending upon degree of importance estimated. During the preceding five years, AMC had improved its timeliness in replying to external audit reports but an analysis of these replies over the same period indicated a quality well below standard. The new program was implemented to correct this situation. What AMC was seeking in the position statements was responsiveness, reasonableness, completeness, disciplined presentation, and target-date and special-problem controls. AMC had given itself a quality rating of 80% through the first period studied - July through September 1974. A future goal was set at a 92% quality rating with the expectation that future goals would be set perhaps even higher. The program was to be managed by the AMC Comptroller Directorate. This program was another major effort by AMC to improve logistics management.

Planning, Programing, and Analysis

General

(U) The Directorate for Plans and Analysis, AMC, was responsible for the management of the AMC processes of command planning, programing, systems analysis and environmental control. During FY 1975, emphasis was placed on achieving greater productivity with less economic resources. Many programs were revised and strengthened through using declining resources more effectively.

(U) For the first time, AMC participated in the development of the DA Program Objective Memorandum, an annual submission to DOD used to influence resource levels in the Five Year Defense Program (FYDP). The HQ, AMC Program Plan, containing AMC goals, objectives, and program tasks was expanded to include AMC policies, priorities, and areas of emphasis.

(U) Also in FY 1975, decentralized management was emphasized in an attempt to streamline the decision-making process. The CONCISE study aimed at reducing the number of active AMC installations.

(U) The AMC Plans and Program division managed the AMC Resource Management System, including the development and issuance of command program planning guidance, and command objectives. The division also directed the preparation of implementing, programing, and planning documents by AMC major subordinate commands and performed appropriate analysis as the basis for command decisions.

AMC Program Plan

(U) During the year the AMC Headquarters staff worked under an MBO system outlined in the FY 1975 HQ, AMC Program Plan which was published in July 1974. General Miley's (Henry A., Commander, AMC) ten goals were expanded by a series of objectives and tasks developed by the Headquarters staff and monitored by the AMC Commander or Deputy Commander through a system of periodic staff reviews. The FY 1976 HQ, AMC Program Plan was developed and published during FY 1975 as the primary vehicle for the implementation of the AMC Goals. Implementation was to be accomplished through the AMC system of Management by Objective which involved the development of objectives and specific, measurable and time-phased programmed tasks by members of the HQ AMC staff. Periodic reports of progress towards these objectives and tasks were made to the HQ, AMC Command Group. In addition, the FY 1976 HQ AMC Program Plan included for the first time, narrative guidance in the form of policies, priorities and areas for emphasis to assist in establishing direction and parameters for AMC operations during the program period. The Army Materiel Command goals were:

- Goal 1. Improve the readiness of Army combat forces.
- Goal 2. Improve the materiel acquisition process.
- Goal 3. Reduce the cost of Army weapons systems.
- Goal 4. Decentralize operations in AMC.
- Goal 5. Improve the quality of the AMC work force - military and civilian.
- Goal 6. Improve the relationship of AMC's R&D effort to areas of main concern to the Army.
- Goal 7. Manage and operate AMC with the minimum application of resources - facilities, personnel, dollars.
- Goal 8. Increase the number and grade of minority personnel (including women) in the AMC work force.
- Goal 9. Improve the working and living environment in AMC.
- Goal 10. Create an atmosphere of challenge and creativeness in AMC.

Program Analysis and Resource Review (PARR)

(U) In FY 1975, DA decided to include selected major commands in the programming cycle. Previously, the DA staff developed the program and submitted it to OSD in the Program Objective Memorandum (POM) without formal reference to major Commands. During FY 1975 the Plans and Programs Division, AMC, developed and forwarded the first Program Analysis and Resource Review (PARR) to DA. The highlights of AMC's program requirements were presented orally to the DA Program Guidance Preview Committee (PGRC).

(U) The following were the major activities involved in the PARR process: the major subordinate commands submitted impact statements on 16 September 1974 which were analyzed and staffed within AMC. Recommendations were completed during the second quarter of FY

1975; and, based on the 27 January 1975 Program Budget Guidance (PBG) from DA, and utilizing DA suggested formats, AMC's PARR was prepared reflecting the out-year program within guidance as well as unfinanced requirements for FY 1977. Solicited suggestions of the AMC directors were incorporated into the PARR which was then presented to AMC SELCOM (Select Committee) on 24 February 1975. The envisioned FY 1977 AMC Program was approximately \$10 Billion.

(U) A PARR presentation was made to the DA PGRC on 27 February which: highlighted AMC's program requirements; recommended an increase of \$112 million in OMA and \$2.9 Million in Military Family Housing; and listed the major areas of concern to AMC. The formal submission of the PARR to DA was made on 10 March 1975. It was used by DA to develop the FY 1977-1981 POM.

(U) Of the \$115 Million in command issues presented to DA, \$88.3 Million was recognized by DA as valid; \$58.1 Million was included in the POM; and \$26.7 Million was either disapproved or the decision was deferred. Letters from General Fred C. Weyand, VCSA, and MG J. R. Thurman, Director, Program Analysis and Evaluation, commending USAMC for its PARR submission, indicated that DA decisions on issues raised by AMC had improved the quality of the POM and that the AMC PARR in identifying future operating requirements permitted the Army Staff to develop solutions early in the FY 1977 cycle. DA also recognized that AMC had developed tradeoffs and alternatives that permitted re-programing of resources required to support more critical unfinanced requirements. 35

Army Stationing and Installations Plan (ASIP)

(U) The AMC annual input to the Army Stationing and Installations Plan (ASIP) was forwarded to the Chief of Engineers on 28 July 1975. The ASIP provided a basis for planning and programing of real properties required to support personnel and activities at Army installations. The plan included those personnel and activities scheduled to be located at Army installations during the period of the Five Year Defense Program (FYDP) and was updated to reflect the annual change.

Maintenance Evaluation Study

(U) Following the SELCOM briefing in February 1975, a project was outlined for the AMC Plans and Analysis Directorate to investigate resources used by each major subordinate command in support of Maintenance and Overhaul activities. The study was to evaluate the workload and dollars of the commands against each other, with particular

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Letter from General Walter T. Kerwin, Jr., Vice Chief of Staff to General John R. Deane, Jr., Commander, AMC, 28 May 1975, re: Program Analysis and Resources Review.

concern for those commands having the highest costs. Initial work on the study began in the last quarter FY 1975.

Mobilization and Emergency Planning

(U) The AMC War Emergency Plan (AMC-WEP) was completely revised and approved for publication in June 1975. Republication was required because of numerous additions, modifications, and deletion of mobilization requirements which had become part of the AMC Mobilization Plan.

(U) The AMC Mobilization Plan (AMC-MP) was published in April 1975 and distributed in June 1975. The plan included force mobilization guidance and guidance for the post-mobilization support of the expanded Army. It superseded the AMC Force Mobilization Plan, dated 24 September 1971, and incorporated material previously included in the AMC-WEP covering Logistics, Communications-Electronics, and War Support Operations considerations.

AMC Operations Center

(U) Activation of the AMC Command Operations Center on a 24-hour basis was accomplished for the following periods during FY 1975: JCS Exercise POINT BLANK, 21 Oct 74 - 25 Oct 74; JCS Exercise PRIME RATE, 3 Mar 75 - 14 Mar 75; Defense Assistance Vietnam - Expedite (DAV-E), 28 Mar 75 - 18 Apr 75; and JCS Project 9LL (Operation New Life) and 9MM (Operation Frequent Wind) - Disengagement from Vietnam and Support of Vietnam Refugee Evacuation, 24 Apr 75 - 28 Apr 75.

Indochina Refugee Operations

(U) During the period, 28 March through 18 April 1975, Headquarters US Army Materiel Command was involved in operations for Defense Assistance to Vietnam - Expedite (DAV-E). The operations center was activated during this period serving as the command and control center for all AMC operations relating to DAV-E. After termination of DAV-E and the closing of the operations center, MG J. W. Pezdirtz, the Deputy Commanding General for Logistics Support, recognized that AMC might become involved in the Indochina Refugee Operations and directed that the Operations Center be reopened on Thursday 24 April 1975.

(U) Guidance furnished by General J. R. Deane, Jr., AMC Commanding General was, that if AMC became involved in refugee operations, total 24-hour support was to be afforded the operation and that the highest priorities of effort were to be affected for any request concerning refugee operations.

(U) A substantial amount of planning had been accomplished to augment, activate and staff the HQ Operations Center and subordinate

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commands of AMC for any contingency that might occur. This prior planning enabled AMC to rapidly respond to requirements of the refugee operation as they were generated.

(U) After the AMC Operations Center was activated, all subordinate commands were furnished guidance to prepare for the possibility of refugee operation support. In the initial stages the execution involved shipping various materiel, by air, to locations where the items were required. AMC became the coordinating agency for all Special Assignment Airlift Mission (SAAM) flights involving supplies from the Defense Supply Agency (DSA), the State Department and AMC. AMC arranged for nine SAAM flights involving approximately 1700 short tons of materiel.

(U) Of the approximate 1700 s/t, AMC furnished the following materiel: Twenty Lighting Sets, Nine Public Address Systems, Four Refrigerator Vans, One Delousing Machine, Five Sprayer/Fogger Machines, and Locking plates for M16 Rifles.

(U) After the initial (5 days) surge of requirements it was observed that less intensive command control of AMC capabilities was required, and that actions could be handled in a more routine manner. The Operations Center was inactivated, releasing personnel to continue their support from normal positions within the staff.

(U) AMC's role in the refugee operation was to furnish required materiel during the initial stages while the great preponderance of refugees were in the Phillipines or Guam. Upon movement of the refugees to CONUS, AMC's role decreased to one of accounting for stock issued, examining and refurbishing the equipment, if necessary, and returning the materiel to stock, when no longer required. This role was a continuing process during the year.

(U) Lessons learned included the realization that various types on contingencies or emergencies could be readily handled by AMC with little or no difficulty and that existing documentation and regulations were adequate to activate, staff and operate the operations center for Command and Control of AMC resources. One significant problem in the Indochina refugee resettlement program was that the weapons and ammunition brought with refugees posed some security problems to personnel on Guam. ³⁶

36

Letter, DRCPA-M-OC to HQDA (DAMO-ODS), 9 June 1976, subject: Refugee Operations After Action Report - signed John W. Brennan, COL, GS, Director, Plans and Analysis.

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Contingency Planning

(C) In response to evolutionary changes in logistics support concepts, five OPLANS were prepared in FY 1975. Of these, a key plan in support of USAREUR's General War Plan, AMC OPLAN 4102, was finalized, authenticated, and published. Preplanned supply requirements were computed and all related supply and transportation documentation completed. The plan incorporated a new concept of logistic support that was compatible with USAREUR's wartime logistic organization and would facilitate wartime transition to the Direct Support System (DSS) concept.

Systems Analysis

(U) The AMC Systems Analysis Division served as the focal point for the AMC "Systems Analysis Community" to assure that studies affecting major decisions conducted within AMC or by other Army Commands and Headquarters which required technical and cost information from AMC were properly and objectively conceived, supported, evaluated and presented. In this management role on major requisition and logistic studies, the division provided policy and guidance, allocated resources, established priorities and evaluated results.

(U) With the changes in mission and organization brought by AR 1000-1, AMARC, and CONCISE, the division had become involved with defining and analyzing several new functions affecting AMC's systems analysis. Three such changes are briefly described below:

(U) Test Design and Evaluation Stemming from an AMARC recommendation to separate the various test functions to achieve greater objectivity, the AMC Systems and Analysis Division identified roles, estimated needed resources, amended regulations, and provided guidance to implement the Single Integrated Development Test Policy. The Systems Analysis "Red Team" had the assigned function of developmental test design and independent evaluation of test results. Accordingly, the Army Materiel Systems Analysis Agency, (AMSAA) defined the need for 132 additional spaces to perform the TD&E mission on 58 major and designated non-major systems. Similar impact was expected to be felt by the SAOs of the MSCs.

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(U) Field Liaison Division. The Army Materiel Systems Analysis Agency (AMSAA) inherited 35 people (18 military and 17 civilians) from the Land Warfare Laboratory and established a Field Liaison Division (FLD) to provide an interface between the user and the research and development community. FLD was established to maintain direct contact with materiel users to determine specific requirements for materiel improvements which are then referred to the proper research and development laboratory. The AMC Systems Analysis Division assisted in defining the mission and command policy, for the FLD and for securing approval of AMCR 70-7, and staffing the FLD European Trip Report.

(U) SCANOS (Systems and Cost Analysis Organization) Study. At the request of the AMC DCG, a study was conducted (by AMETA) of the several options to combine or keep separate Systems Analysis and Cost Analysis. (An AMARC recommendation questioned the contemporary placement of Systems Analysis and Cost Analysis.) AMETA's study, dated February 1975, was subsequently staffed throughout the HQ, but specific AMC action was withheld pending the completion of other organizational studies. The HQ AMC view was to permit the MSCs or development center commanders to organize as they wished. At least one major subordinate command, AVSCOM, combined the two functions within a single organization.

Environmental Control

(U) The mission of the AMC Environmental Control Office remained essentially unchanged in FY 1975. It is charged with staff responsibility for the overall management, coordination, and control of the AMC effort to enhance the environment through abatement of pollutions emanating from AMC installations, facilities, and materiel undergoing research, being designed, produced, in current inventory, being recycled and disposed of as surplus. Pollution abatement efforts continue to address engine emissions, fuel and lubricants, noise control and waste releases from fixed and mobile sources.

(U) FY 1975 was highlighted by an increased effort to attain compliance with regulatory documents. Rapport between this Command and the Environmental Protection Agency resulted in early participation by AMC in the development of proposed changes in standards, regulations and law. This enabled the Command, in some instances, to take preparatory actions prior to enforcement of environmental directives.

Though the mission assigned remained essentially unchanged since FY 1974, the diversity of the tasks assigned led to a truly multidisciplined organization capable of functioning in all scientific, engineering, sociological, economic and legal areas.

Major Environmental Accomplishments

(U) The AMC environmental control/pollution abatement effort not only has remained viable but has in fact, expanded and received increased attention and support. The fluidity of standards has resulted in program modifications in certain cases; however, a high degree of success was attained.

(U) Continued emphasis on preparing Environmental Impact Analyses (EIAs) and Environmental Impact Statements (EISs) was in vogue during FY 1975. An EIS status report to DA was initiated in FY 1975. AMC's input as of 30 June 75, reflected a total of 4 current AMC EISs at DA or higher level; 6 under preparation within AMC and 9 actions which were potential EISs. 37

Mission and Organization Planning

(U) Developments in the workload and responsibilities of the AMC Mission and Organization Division during FY 1975 point to the direction in which the AMC Headquarters was moving and further reflected the overall management philosophy and goals of the entire Army Materiel Command. The AMC goal to decentralize operations was evidenced by the division's increasing use as the source of broad policy guidance and special studies on organizational matters. The division no longer served as a clearing house for relatively minor mission and organization changes, but rather AMC had delegated authority to local commanders to reorganize below the second level or below the level of management reporting directly to the commander. This held true as long as such reorganizations were in consonance with the directorate functional alignments of the standard commodity command and depot organizations. Also, revisions to AMC's major policy document for mission and organization AMCR 10-1, were being further refined and expanded to increase the local commander's authority to reorganize.

(U) As AMC moved toward a compact, corporate-type headquarters, the AMC Mission and Organization Division visualized increasing concentration upon command-wide resource management and performance evaluation.

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For a listing of the accomplishments made during FY 1975, see the Annual Report of Major Activities for the Directorate of Plans and Analysis, HQ, AMC, FY 1975 in files of AMC Historical Office.

As a reflection of this trend, the division had been involved with a number of special studies directly associated with the broadest AMC goals. These studies addressed the improvement of the materiel acquisition process and the reduction of weapons systems costs in addition to operation of the command with the minimum use of resources. These studies revealed the increasing significance of this division as AMC evolved into a new way of doing business.

(U) The day-to-day management of AMC's mission and organization rested heavily on the policies and standard organizations outlined in AMCR 10-1, and of course, the increased delegation of authority to local commanders. For example, during the year, the division advised against proposed merger of the Automated Logistics Management Systems Agency (ALMSA) and the Logistics Systems Support Agency (LSSA) on the grounds that the minimal savings did not offset the personnel turbulence of the action. And considering the increasing importance and dollar value of the International Logistics (IL) Program, a recommendation was made to allow the chiefs of International Logistics at AMC installations direct access to the local commander. Also, a study of the Base Operations Installation Support (BO/IS) Division at AMC depots, which was established to monitor AIF costs, resulted in a recommendation that the BO/IS organization be continued at the discretion of the individual depot commander.

(U) The Mission and Organization Division also participated in AMC manpower surveys at Corpus Christi Army Depot, International Logistics Center, and Tobyhanna Army Depot, serving as a consultant on organization. The routine business of updating the AMCR 10-series organization and functions regulations for all AMC installations reporting directly to HQ, AMC also consumed a significant portion of time and effort. Also, supportive work related to the division's involvement with special studies assumed an increasing role in the day-to-day operation of AMC. Finally, considerable effort was spent during the fiscal year responding to congressional inquiries on special studies, coordinating the development of plans for the implementation of study recommendations.

(U) AMARC. With the crucial assistance of the Mission and Organization Division on concept plans and implementation coordination, 63 of the 71 assigned Army Materiel Acquisition Review Committee (AMARC) actions were completed or received final approval. The preeminent organizational change proposed by AMARC involved the separation of research, development, engineering, and initial procurement functions from logistics and readiness functions. To this end, AMC moved to consolidate laboratories, installations and commodity command RD&E elements, project managers, and other elements into separate, self-sustaining development centers reporting directly to Headquarters, AMC. The Mobility Equipment and Natick Development Centers were established

in March 1975, and DA approval for the establishment of the Tank Automotive Systems Development Center was received on 30 July 1975. Revised concept studies for an Air Mobility, Armament, Communications/ADP, Missile, and the Harry Diamond Development Centers have been supplied to DA, with approval of particular options for most expected by October 1975. Meanwhile, all operational test facilities, with the exception of the Aviation Test Board, were transferred to TRADOC on 1 July 1975 in order to obtain a more objective, user-oriented evaluation of AMC weapons systems. For similar reasons, DA approved for implementation, the transfer of the overall test design and evaluation mission to the Army Materiel Systems Analysis Agency (AMSAA). All other AMARC actions, which involved changes in policies and procedures on funding, production, science and technology, personnel administration, and revisions to regulations were completed.

(U) CONCISE. The Army developed, beginning in late 1973, a series of studies which was originally called TOAMAC II but that more recently became known as CONCISE. The AMC portion of this program required the reduction of excess physical capacity and a reduced maintenance workload, plus a need to improve service.

(U) Of the eight actions approved under Project CONCISE for the Army's logistics base, three actions were announced in February 1974: disestablishment of the Land Warfare Laboratory, disestablishment of the Advanced Concepts Agency, and relocation of the Coating and Chemical Laboratory. All of these actions were scheduled for completion by 30 June 1974. These three actions saved about \$3.8 million annually and resulted in the elimination of approximately 150 civilian positions.

(U) In November 1974, the Secretary of Defense announced his approval of the remaining CONCISE realignment actions: closure of Frankford Arsenal, Pennsylvania; reduction of Savanna Army Depot, Illinois, to activity status under control of Letterkenny Army Depot. Only Sierra and Seneca Army Depots will now have a Special Weapons mission; reduction of Lexington-Blue Grass Army Depot, Kentucky, to activity status under control of Red River Army Depot. Lexington's communications-electronics workload will now be consolidated at Tobyhanna and Sacramento Army Depots; reduction of Pueblo Army Depot, Colorado, to activity status under control of Tooele Army Depot. Pueblo's missile maintenance mission for all but the Pershing system will be transferred to Letterkenny Army Depot; transfer of Sharpe Army Depot's responsibility for aircraft, construction, and general equipment maintenance. Aircraft maintenance will now be concentrated at Corpus Christi and New Cumberland Army Depots, while construction and general equipment maintenance will be consolidated at Tooele Army Depot; regional responsibility for storage and distribution of secondary items will be consolidated at New Cumberland, Red River, and Sharpe Army Depots with a corresponding reduction in supply operations at the other depots.

(U) The total projected savings from these CONCISE actions which all began 1 July 1975, will save \$110 million annually, including a total reduction of over 7000 civilian spaces. This reduction will result in a strength of the Army Materiel Command which is 25% below the peak strength during the height of our involvement in Southeast Asia in 1967.

AMC Committee-Armament

(U) Responding to an AMARC recommendation that within AMC, management of new weapons systems and major product improvements should be separated from the management of logistics functions, and specifically that AMC should establish an Armament Development Center. On 28 May 1974, the Commander, AMC, General Henry A. Miley, Jr., formed an Ad Hoc Committee to conduct a study to develop a concept plan for establishment of such a center. BG Bennet L. Lewis was named to direct the Ad Hoc Committee study due by 1 September 1974. The study group was to determine: the general missions and functions of the center; the general operational and procedural concepts the center would use; the general organization of the center to include personnel estimates to second level (directorates) only, as well as interfaces, relationships and working arrangements; the potential sites for the physical location of the center; the physical organization closures, consolidations, reductions, and realignments and an assessment of personnel impacts; the estimated personnel and dollar savings; the milestone schedule required to effect implementation. 38

(U) Under the Study Director, the committee formed teams to carry out the AMC commander's instructions as follows: Current Organization, Concepts, Economic Analysis, Logistics, Study Integration, and Resources. The specific task as suggested by AMARC was to create a new Armament Development Center at a single location, through an evolutionary process, by consolidating selected RD&E elements at Frankford, Picatinny, Rock Island, Watervliet, and Edgewood Arsenals, the RD&E Directorate of US ARMCOM and the Ballistic Research Laboratories. The report that was rendered in December 1974 studied the organization and operations of the contemporary armament community, other development organizations, and the AMARC report. After developing, analyzing, and costing numerous alternative concepts aided by in-house experts and consultants, the Committee-Armament found: that the armament acquisition process was in need of major improvement and that the need was compelling, that a consolidation of fragmented activities including reorganization into systems laboratories would assist in the provision of an opportunity for improvement, that significant economies could be achieved with reorganization and consolidation, that armament development activities would be in good position for the long term after reorganization and consolidation, that there were some disadvantages in reorganization

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Letter, AMCPA-O to BG Bennet L. Lewis, SA Commander, USAMC, 28 May 1974, subject: Study Directive - Concept Plan for Establishment of an Armament Development Center in the report of the committee December 1974.

and consolidation, but that the status quo was the worst alternative, and that implementation should be made with the recognition that there were risks involved that demanded skillful implementation assuring the retention of skilled personnel and expertise and that support from the higher levels in DA, DOD, and the US Congress were absolutely required. 39

(U) The recommended concept was to establish an armament development center (ADC) with responsibility for research, development, and the transition of newly developed armament materiel into quantity production. The ADC was to be built upon a core of four laboratories: three systems development laboratories (small caliber weapons, large caliber weapons, and chemical materiel) supported by a fourth laboratory for ballistics research. The center would incorporate those ongoing activities clearly relevant to the armament acquisition mission then located at Frankford, Rock Island, Picatinny, and Watervliet Arsenal, the Ballistics Research Laboratories, and Edgewood Arsenal. The organizational and operational concept followed the objectives established for the ADC, with emphasis upon those objectives related to systems orientation, clear assignment of responsibility, intensive management of concepts and projects, close coupling between technology and development, and a strong bond with the user. 40

(U) A separate substudy examined the impact that the formation of the ADC would have upon the remainder of ARMCOM. The formation of an armament logistics command (ALC) complementary to the ADC was explored in concept form. It was visualized that the ALC would be responsible for the materiel management functions of supply, maintenance, production, and related procurement activities. The ADC and ALC would support each other. The substudy determined that the separate logistics command was feasible and that it would not grow in population or budget from the status quo. 41

Management of Information Systems

Scientific and Engineering (S.E.) Functions

(U) A draft policy for the implementation of management procedures for the Scientific and Engineering Computer Network was developed. The S&E Computer Steering Committee (SECSC), an advisory board, providing management and policy advice to AMC, recommended the draft policy be adopted and issued by HQ AMC. The policy paper was staffed and would be issued as AMCC 18-3.

39

Final Report of the AMC Committee-Armament, Executive Summary, Volume 1 of 4 Volumes, December 1974, p. 1, 2.

40

Ibid, p. 2.

41

Ibid, p. 4.

(U) The S&E Computer Council (SECC) and the Directorate of Management Information Systems (DMIS) conducted studies to determine the accuracy of AMC computer systems and the total AMC Network. This was seen to affect the AMC 5-Year Plan and the development of operating policies, the configuration of systems components, and resource allocations. To date, by the end of FY 1975, discussions had been held with 3 consultants and independent studies had been initiated at 4 separate installations.

(U) DMIS supported attempts to gain funding for commercial development of an "Advanced Hybrid Computer System" for Army laboratories. Although current economic conditions made it impossible for DOD to fund the development, the effort expended by DMIS and the AMC laboratories significantly advanced the state-of-the-art of hybrid computation. A very successful international conference sponsored by DMIS brought together world leaders from the US and Europe to summarize the present state-of-the-art and to project future efforts.

MARDIS

(U) The Modernized Army Research and Development Information System (MARDIS) automates selected manual R&D reports. During FY 1975, computer programs to input, edit, update, and output data were prepared by NATICK, MERDC, and USAMSSA. MARDIS was tested at TROSCOM, and functional changes based upon the analyses of the testing were identified. A GFSR/DFSR and an economic analysis were prepared. The proponent agency (ODCSRDA) designated the Computer Systems Command as the assigned responsible agency to effect the functional changes and to implement MARDIS throughout DA.

Headquarters Management Information System (HQMIS)

(U) This HQMIS system involves a remote display of selected information from existing data bases. Following the successful implementation and user acceptance of the prototype applications, the applications for the Directors of Management Information System Directorate were added, and several new applications added in the prototype areas. The Army Logistic Management Center (ALMC) provided 3 day on-site training of the directors and their staff as each new application was added. Other planned applications have been delayed due to limitations of the current data base system. With the multiplicity of systems to be brought under control there was continuing emphasis on planning with greater attention being paid to the identification and elimination of duplication. And in the area of planning, the AMC Deputy Commander, LTG W. W. Vaughan did not hesitate to admit that as of the end of FY 1975, AMC had "not planned headquarters information requirements completely." General Vaughan rightly judged that AMC faced a practical limitation preventing an analysis of the total information needs of AMC headquarters before continuing to develop the headquarters, AMC information system, in that sufficient sources were not available

to do "the whole job at once instead of a piece at a time." 42 User acceptance of remote interactive terminals has been outstanding at an average of 400 queries per month.

Technical Data/Configuration Management Information System

(U) The Technical Data/Configuration Management Information System consists of a Configuration Management System (CMS), file creation/conversion, and an Automated Microfilm Storage and Retrieval (AMSR) system. TACOM was designated as the proponent agency. The CMS was developed by Rockwell International Corporation and was tested at ALMSA and TACOM. Minor changes were to be made prior to acceptance and implementation. ALMSA was designated as the assigned responsible agency to implement and maintain the CMS throughout AMC. The draft TD/CMS plan was revised to reflect the file creation/conversion and AMSR requirements of the participating AMC activities.

Data Element Management

(U) AMC was selected by DCSLOG to be the DA Executive Agent for standardization of logistics data elements. The AMC Data Element Dictionary System (DEDS) was modified to automate the input to DA of AMC data elements for DA standardization. AMC was also selected to serve as the DA representative on a Bureau of Standards project to establish guidelines for government guidance for Data Element Dictionaries.

(U) FY 1975 emphasis in the reports management program has been placed on completing the inventory and costs of all RCS reports and ADP products produced within AMC. By the end of FY 1975, reports/products with costs of approximately \$9,362,198 (17%) annually, were cancelled. Also, emphasis was placed upon automation of the actual reports management mechanism and during FY 1975, the design of the system was completed and programing was initiated. Also, thirty data elements were submitted and accepted by DA as standard Data Use Identified; thirty-five were accepted as registered users of a DA standard. Reports management was also involved with designing procedures to place primary emphasis and efforts on high volume/cost reports and products, and eliminating low-cost items from management.

(U) During FY 1975, a review of the inventory, together with associated dollar costs of all AMC ADP output products was completed. Responsibility for management of output products from standard systems was assigned to the AMC Reports Management Officer and the applicable AMC Headquarters directorate.

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Letter, AMCMS, from LTG W. W. Vaughan to Mr. Donald L. Eirich, USGAO, 6 May 1975, re: Management Information Systems.

Command Control Standard System (CCSS)

(U) During FY 1975, a total of 581 output products were scheduled for review. Approximately 8% were deleted or changed; the remaining were approved for retention. A standard automated costing system for both ALPHA and non-standard ADP products was completed by ALMSA, utilizing each MSC's SMF data. This eliminated manual costing of ADP products for the MSCs and produced a standard basis for comparative analysis across the MSCs. It is planned to extend this automated costing to SPEEDEX during FY 1976.

SPEEDEX

(U) The CY 1974 review of SPEEDEX was completed in December 1974. Of 945 products reviewed, 66 were cancelled with a resultant annual savings of \$977,942. The CY 1975 SPEEDEX review has produced 21 cancelled reports as of 30 June 1975.

Reports Control Symbol (RCS) Reports

(U) Reports management actions during FY 1975 resulted in a net reduction of 13 Reports Control Symbol reports, reducing AMC reports cost by approximately \$1 million. The current inventory stands at 232 AMC sponsored reports with a total cost of \$7,251,067. Higher authority reports amounted to an additional cost to AMC of \$16,166,205 for a total cost for RCS reports of \$23,417,272 as of 30 June 1975.

Management of Quality

Organization and Mission

(U) During FY 1975, numerous and significant actions were taken to improve and expand the AMC Product Assurance Program. It was the intent of this Directorate to interface with and apply its principles and support to each functional management area.

(U) Some reorganization and position realignment resulted from HQ, AMC's reduction program. The most significant changes involved the establishment of the Plans and Concepts Office under the Directorate for Quality Assurance and the transfer of the Value Engineering function to the RD&E Directorate. The Plans and Concepts Office would provide for centralized planning of program objectives and resource management, and would take action on or coordinate those tasks crossing divisional lines. The Value Engineering (VE) function was moved into the research and development area, both at Headquarters and at the MSCs in an effort to focus attention on the performance of VE as an integral part of the engineering process.

AMC Depot Quality Assurance Program

(U) During FY 1975, a number of significant actions were taken relating to the Depot Quality Assurance Program. Some of these actions are discussed below.

(U) Care of Supplies in Storage (COSIS) Program. As the turn-over of our materiel in storage continued to be drastically reduced subsequent to the phaseout of US involvement in Southeast Asia, emphasis on the COSIS program made it second only to shipping in priority within the supply system. Quality assurance actions in support of COSIS included establishing programs and policy to get the program 'off dead center' through the extensive revision of AR 700-89, Identification, Control and Utilization of Shelf-Life Items (SLI), 27 September 1974, to implement DOD Instruction 4140.27 and assign responsibilities and outline criteria for SLI program management. This guidance was supplemented by AMCR 740-15, Storage Serviceability Standards (SSS), 16 May 1975 which prescribes policies, responsibilities and procedures for preparation, publication and maintenance of SSSs for Army materiel during receipt, in-storage, and issue operations. This guidance is further delineated in AMCP 702-25, Handbook for COSIS which will be distributed to the field during 1st Qtr FY 1976.

(U) Depot Product Assurance Regulation. Extensive revision of AMCR 702-7, Depot Quality Assurance System, March, 1975, provided a comprehensive, updated document which also incorporated the contents of previous regulatory guidance concerning the quality data feedback system, cyclic inspection, and storage procedures; and a separate chapter on ammunition surveillance. Changes/additions of particular interest were: cyclic inspections and shelf-life materiel control; identification and classification functions; maintenance/quality pre-production planning; quality of repair parts issued to maintenance; audit of new procurement repair parts; quality deficiency rework costs; and mechanized collection/transmission of 116 report data.

(U) Unified Industries Study of AMC Depots. During the period July through December 1974, Unified Industries performed an independent, in-depth study at selected AMC depots to evaluate the efficiency and effectiveness of Quality Assurance and Maintenance operations. The study identified deficiencies in current methods of depot operations and recommended specific actions for improvement in several key areas. Unified's recommendations were reviewed by the AMC staff and action was initiated to implement same with the exception of the recommendation that testing be totally performed by quality assurance personnel. This area was being reevaluated by an independent AMC study team. Plans called for full implementation to be accomplished by 3rd Qtr 1976.

Procurement and Policy Product Assurance

(U) Materiel Release Program. The Army policy for fielding equipment was to have all known deficiencies corrected and all corrective actions incorporated into production hardware and to insure that the item was completely supportable, including all training by AMC prior to release of materiel to the user. AMCR 700-34 prescribed the objectives, responsibilities and policies for establishing formal and disciplined management controls to provide confidence that Army

Materiel complied with all applicable existing regulatory requirements prior to release to the user.

(U) Extensive revision to AMCR 700-34, Release of Materiel for Issue, became effective on 1 May 1975 with major subordinate command local implementing procedures required by 15 July 1975. The most significant changes were the inclusion of Major Items from Reconditioning Programs and Selected Secondary Items. Five basic release categories are identified in the revised regulation: major items - first time procurement; major items - follow-on procurement; major items - from reconditioning programs; selected secondary items; and configuration changes.

AMC Ammunition Surveillance Program

(U) Chemical Surveillance Program (Toxic). With the passage of Public Laws 91-121 and 91-144 in 1969, the comprehensive surveillance program for lethal chemical agents and munitions, which included open air testing, was suspended and since that time has been limited to storage monitoring and leaker detection. In October 1973, AMC approved an ARMCOM plan to reinitiate a surveillance program which would be conducted through laboratory analysis of agents as opposed to the previous open air testing. A mobile laboratory would visit the installation to be sample inspected, resulting in considerable savings in manpower and transportation costs. The purpose of this program was to establish the current level of quality, detect trends in deterioration, and develop data for use in design and fabrication of special equipment for demilitarization and disposal. Program was approved by DA in April 1975 and initial sampling of one item started that month. The depot-by-depot sampling program for the balance of VX and GB loaded items was scheduled to start in 1st Qtr FY 1976.

(U) Single Service Manager (SSM) for Conventional Ammunition. In March 1975, a draft DOD Directive assigned the Secretary of the Army as Single Manager for procurement, production, supply, and maintenance of conventional ammunition within the DOD. An AMC Ad Hoc group was formed and convened at HQ, ARMCOM during May 1975, for the purpose of developing alternative plans for implementation of SSM. Several plans were developed and forwarded to DA for review and selection of an alternative to be implemented. Impact to AMCQA cannot be determined until final implementation plans have been received from DA.

(U) Ammunition Stockpile Reliability Program Study. A detailed analysis of the Stockpile Reliability Program by AMCQA indicated benefits would be gained from a comprehensive study as there have been numerous changes in both directives and organizational responsibilities for operation and management of the program during the past few years. Accordingly, the US Army Materiel Systems Analysis Agency (AMSAA) in its overview role was tasked, on 2 May 1974, to establish parameters,

design a plan of action and conduct a study in conjunction with ARMCOM and MICOM. The purpose was to evaluate the operational readiness, serviceability, safety, reliability and performance of ammunition items in the stockpile or deployed in the hands of troops for use in combat or training; and to provide sound technical information for decision making inputs in the overall management of the ammunition systems. Scheduled completion date for consolidation and preparation of the final report was 2nd Qtr FY 1976.

International Logistics - Quality Assurance Program (ILQA)

(U) Quality Assurance Work Group. During the 2nd Qtr, FY 1975, authorization was gained for the formulation of an International Logistics work group within the Directorate for Quality Assurance. The necessity for IL-QA interface was previously recognized as an integral part of day-to-day business. The rapid growth of the IL program and its increasing importance in view of its influence and impact on our national affairs dictated the intensive management of quality assurance aspects of the overall IL program. All sales cases or outgoing correspondence involving hardware are now routed through IL-QA work group for concurrence/coordination or approval as appropriate.

(U) Regulatory Guidance and Pamphlet. AMCR 702-3, "Quality of Materiel for Grant Aid and Foreign Military Sales Program for All Classes of Supplies," was under revision to provide for increased effectivity at MSCs and depots in performance of the Grant Aid and Foreign Military Sales discipline. It would also require QA involvement early in sales case preparation and in maintenance planning. An "International Logistics Handbook" was also being prepared for use as a guide for all quality assurance personnel involved in International Logistics functions.

US Army Metrology and Calibration System

(U) Test and Measuring Equipment for Maintenance Calibration (TMEMC). TMEMC is a groupment of equipment, i.e., signal generators, voltmeters, oscilloscopes, attenuators, torque testers, tachometers, etc., housed in a transportable configuration to provide on-site electronic, physical and radiological maintenance calibration service. TMEMC will provide commanders in the field with equipment and personnel to accomplish their assigned responsibility. TMEMC development responsibility rests with the US Army Metrology and Calibration Center (AMCC). The prototype was fabricated by Lexington-Blue Grass Army Depot and delivered to the USAMCC in January 1975. The TECOM test was completed in March and the TRADOC Operational Test was completed in April. The In-Process Review is tentatively scheduled for November of this year. The Quantitative and Qualitative Personnel Requirements Information and the Basis of Issue Plan are being reviewed by DA and the approved documents are expected by the end of October. TMEMC will be fielded during the FY 76-77 time frame. The 95th Calibration Service

Company Transfer Teams are providing interim level C support to USAREUR and Ft. Hood pending the fielding of TMEHC.

(U) "C" Level Program Responsibility. The "C" level calibration program is that portion of the Army's calibration program which is accomplished by organizational, D/S, and C/S maintenance units using their "A" level calibrated TMDE to calibrate other TMDE. Responsibility for providing technical management of the "C" level program was transferred from the Army Maintenance Management Center to the AMCC in May 1974.

(U) Technical Inspection Program. A total of 19 inspections were conducted during the FY 1975 inspection cycle, including the Army Standards Laboratory (ASL), 13 Army Internal Calibration Facilities (AICFs), one Army Area Calibration Facility (AACF), one Army Area Calibration Team (AACT), and three inspections requested for technical proficiency evaluations. All facilities required to receive a rating (AACF and depot AICF) were rated satisfactory. An unannounced inspection was performed of the area support operations at Pueblo Army Depot to evaluate the level of quality of calibrations performed and to verify time and efficiency reports submitted. Courtesy inspections were performed for the 95th Service Company (Calbr) (TASCOM) and the Ballistic Missile Defense Systems Command (BMDSOM) sites in North Dakota. With the completion of FY 1975 inspection, four AICFs performed so well that they were placed on a three year cycle between inspections.

(U) One-Stop Calibration and Repair Concept. The One-Stop Calibration/Repair Test and subsequent analysis was completed at the close of FY 1974 and presented to this Headquarters. The results of the test and recommendations based on these results were presented at the US Army Area Support Calibration Conference. The One-Stop Concept was approved in July 1974 for CONUS Calibration Facilities with implementation to begin by 1 August 1974. Excess personnel spaces resulting from the Nike-Hercules phase-down were distributed among the six CONUS Calibration Depots for the repair effort. Action to identify repair parts required and to acquire initial stockage with housing for stockage was begun by the AMCC. Implementation of the repair effort in CONUS reduced the red-tag rate from approximately 8% of TMDE submitted for calibration, to approximately 4.8%. Repair actions have steadily increased subsequent to concept adoption. One-Stop Calibration/Repair Service has been extended to USAREUR on a limited basis by the 95th Service Company during a Maintenance Calibration Assistance Program. Also, during this program, data has been maintained to provide assistance in the selection of repair parts for initial stockage of the Prototype TMEHC Set. This action will add repair capability to the TMEHC Set to be fielded in USAREUR.

(U) DA Directed Review of OCONUS Calibration Facilities. The purpose of the review was to improve calibration efficiency and eliminate possible duplication existing in OCONUS calibration facilities.

The study was directed by DA in September 1974 and two three-man teams from the AMCC visited USAREUR and WESTPAC Army Calibration facilities during October-November 1974. A draft study report was distributed by DA in March 1975 to affected commands for review and comment. Primary recommendations in the report provided for: disestablishment of calibration laboratory on Okinawa; provision of secondary reference laboratory support to all Army activities in WESTPAC by EUSA from laboratory located at Camp Carroll Army Depot; transfer of secondary transfer support responsibility and resources to USACC in Okinawa, Thailand and Taiwan and assumption of total Army workload and ISSAs by USACC; integration of level A and C programs under single management in USAREUR; assignment of the single management function under DCSLOG, USAREUR; and disestablishment of the secondary reference laboratory at Pirmasens Army Depot.

Reliability, Availability & Maintainability (RAM) Program

(U) AMC has always recognized the need for procuring simple, reliable, and maintainable equipment for Army use. This need is self evident and its importance verified as one views the current economic conditions and the constrained levels forecasted for defense budgets. Consequently, AMC has developed a program to meet this need and which has resulted in significant payoffs. This program, the reliability, availability, and maintainability improvement of selected equipment - popularly known as RISE, represents a systematic assessment of fielded equipment to identify components and subsystems with less than desired RAM characteristics. Engineering and implementation of cost effective modifications to reduce maintenance and support costs are accomplished through the product improvement program.

(U) The RISE Program is structured to include four phases: identification, analysis, action, and verification.

(U) The identification phase requires that system performance analysis be accomplished on operational equipment to identify potential candidates for RAM improvement. When the equipment is identified as a potential candidate for RAM improvement, the analysis phase requires that a design and cost analysis be performed to select alternative design approaches for RAM improvement. The action phase requires that management take action to approve and implement those projects for RAM improvement where a favorable return on investment can be realized. The verification phase requires that the RAM performance and maintenance support costs of approval systems be assessed to determine what degree of improvement was actually achieved.

(U) Experience has shown that most RISE improvements are implemented through use of modifications developed by product improvement proposals (PIPs) or engineering change proposals (ECPs). However, major improvement efforts that reduce operating and support cost and result in advances in performance may be initiated through approval

of a Required Operational Capability (ROC). The CH-47 CHINOOK Helicopter Modernization Program was an example of this type of effort. The CH-47 program, approved by ASARC II on 4 August 1975, featured seven subsystems for improvement: the rotor blades, drive system, hydraulic system, electrical system, flight controls, load suspension, and the auxiliary power unit. The redesign effort was predicted to result in a 15% reduction in the failure rate of the overall helicopter. Maintenance manhours per flying hour were predicted to decrease by 24%. Improved safety and increased productivity are additional payoffs expected.

(U) During FY 1975, a major product improvement program was started on the M551 Armored Reconnaissance/Airborne Assault Vehicle - Sheridan. The program was designed to make the M551 more reliable, maintainable, and durable, thus building troop confidence in the vehicle. Composed of 55 different PIPs, the program included improvements in automotive, fire control and missile guidance subsystems to enhance RAM, safety, and combat effectiveness. These 55 PIPs resulted from the detailed review of 100 problem areas by TACOM, ARMCOM, and MICOM in coordination with TRADOC and FORSCOM personnel. 36 PIPs are for RAM improvement, 11 are for correcting potential safety problems, and 8 would improve the operational effectiveness of the M551. As of 2 April 1975, the cost of implementing these PIPs was placed at \$47.1 million. These improvements also show promise in reducing the operating and support costs for the M551. Based upon an economic analysis performed by TACOM, 43 the improvements can be expected to reduce fleet operating costs from \$56-\$75 million for fleet sizes ranging from 1200-1600 vehicles. Thus, current estimates indicate that net savings of \$9-\$28 million may result. This program is a good example of overall RAM improvement of a system through use of product improvement. RAM activity of the AMC complex is primarily indicated by the number of new start RISE Product Improvement Proposals (PIPs) submitted by the commodity commands. Overall submissions by the AMC community increased from 34 in FY 1974 to 57 in FY 1975. During the past five years, the AMC major subordinate commands have submitted and received approval to implement 201 new start RISE PIPs. This number does not include the CHINOOK Helicopter Modernization program for which a Required Operational Capability (ROC) has been written and approved as noted above.

RAM Growth Management

(U) Reliability Growth Management (RGM) is a methodology used in development programs to plan the growth of reliability early in a program, and, using test results, to track its progress. In AMC, RGM

Systems Analysis Office, TACOM, Report No. 74-29, March 1975, which contains a section entitled, "Product Improvement Program (PIP) Evaluation."

is used by contractors and in-house developers. For contractor developed systems, the contract contains requirements for a reliability growth management plan including planned reliability growth curves for the system and major sub-systems. These contractor growth curves are planned, time phased profiles of the growth of a reliability parameter (e.g., mean time between failures) based on the resources that are programmed and budgeted for the reliability program. As the program progresses, the contractor tracks estimates of actual reliability and compares them with the plan. If an actual value is significantly less than the corresponding planned value, progress is unsatisfactory and corrective action is required. Similar RGM programs are used for in-house developments, such as the XM198 155mm Howitzer.

(U) All project managed engineering development programs use reliability growth management and report their status at HQ, AMC Review and Command Assessments of Projects (RECAPS). RGM was also used in several development programs for non-major systems. 44

RAM Data Base

(U) AMC requires each commodity command to establish and maintain a RAM data base covering the full life cycle of materiel. To achieve this objective, each command must determine its data feedback needs, to assure that the data are obtained, and finally to analyze and utilize the data to prevent/minimize past mistakes. This data base is used for identifying RISE and ECP candidates to improve RAM and to provide for meaningful feedback into the design process. Selected RAM data base activities for the period of FY 1975 were as follows:

(U) Picatinny Arsenal utilized the Reliability Analysis and Communications System (RACS) computer program for data base storage, retrieval and analysis. The system was capable of evaluating a wide variety of assembly and ballistic acceptance test data. The system contains data on the 2.75 inch Rocket, LAW, TOW, DRAGON, SAM-D, STINGER, CHAPARRAL, RAP, HEAT, HEP, APERS, APDS, MORTAR, HE, WP and ILLUMINATING ROUNDS. An analysis/report generating module was being developed to perform RAM assessments such as ANOVA, Bayesian estimates, and OC curves.

(U) A new integrated data base for life cycle tracking of RAM parameters was being developed at AVSCOM. This data base was to be utilized for assessment of UTTAS throughout Government Competitive Testing (GCT). The data system was developed as a coordinated effort with AMC, TECOM, and OTEA to assure a common data base which was compatible with contractor, DT, and OT data collection requirements. Initial validation of the data base is being conducted at Fort Campbell on UH-1H aircraft. Troops from Fort Campbell were trained in data

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For specific examples of RAM Growth Management Projects, see Annual Report of Major Activities, FY 1975, of the AMC Directorate of Quality Assurance in AMC Historical Office.

collection procedures and they were to follow the UTTAS prototypes throughout GCT to assure continuity of results. Providing this data system proves successful on UTTAS, plans call for it to be used in other aircraft development programs and for Sample Data Collection in the field.

(U) The storage and retrieval portions of ASSURE (Automated Software System Used for RAM Evaluation) were completed this year by ECOM. The system is a modular data management system that consists of a series of computer programs to handle equipment and contract information along with development, DT/OT and production data. Additional analysis routines will be developed in FY 1976 to facilitate the comparison of predictions to actual test data.

(U) ECOM also developed a set of computer programs and a data base to automate the reliability forecasting process embodied in MIL-HDBK-217B. The user must provide program input in the form of a parts list showing the commercial or military part number, screening level, the operating environment and temperature, and the electrical stress. The program uses a data base of approximately 10,000 electronic parts to retrieve all the parameters necessary for the reliability prediction. The output shows the failure rate for each part as well as showing mean-time-between-failure at the module or printed-circuit board level. The effect of various design changes can be quickly assessed using interactive time-sharing terminals. Different cases of operating environments, operating temperatures and screening levels can be compared readily. The computer procedures will be used extensively during FY 1976 and a contract was let to provide full programing and data base support throughout the year.

(U) Since FY 1974, MICOM had been conducting a program to determine the storage reliability of missile materiel. The program objective was to develop a better delineation and understanding of design, manufacturing, test, and logistic factors which affect the reliability of missile components and parts during long periods of nonoperation. The need for such a program has been intensified by the trend to retain missile systems in the inventory for longer periods of time; the trend to a "certified round" concept, where missiles are stored for long periods of time without checkout or test; the increasing complexity of missile systems being planned for the future; and the necessity for reduction of the total life cycle costs of missile systems. The Storage Reliability Data Bank will be fully operational at MICOM by the end of FY 1976.

Communications Management

Operational Control

(U) Pursuant to DA direction, Communications-Electronics (C-E) in AMC was reorganized and effective 1 July 1973, the US Army Communications Command (ACC), then known as the Strategic Communications

Command or STRATCOM, assumed operation and maintenance of CONUS communications, including those of AMC. AMC had retained command operational control of communications and staff management of the AMC audio-visual functions. At this time the communications portion of the Installations and Services Agency, Rock Island Arsenal, was transferred to AMC HQ. Most of the transferred personnel formed the nucleus of ACC Command-AMC collocated with AMC HQ. Then by DF dated 20 November 1974, the Directorate for Communications-Electronics and the C-E Division, less the Audio-Visual Branch, were transferred to separate Headquarters status. The Audio-Visual Branch remained with the Directorate for Installations and Services. 45

Signal Security

(U) The AMC Signal Security (SIGSEC) program was officially launched by publication and distribution of the AMC SIGSEC plan on 27 March 1972. In this plan, installation commanders were directed to appoint SIGSEC boards to establish and manage an affirmative SIGSEC program. (Boards were established and are functional at all subordinate activities and headquarters.)

(U) Overall management of the SIGSEC program since its inception was a responsibility of the C-E officer with monitoring and implementation by C-E Division, I&SA, Rock Island, Illinois. On 1 July 1973, USACC assumed management and operations of all AMC installation and activity communications and the C-E Division, I&SA was abolished. One I&SA position, and the incumbent was transferred to HQ AMC and assumed management and implementation responsibility for the operations and maintenance (O&M) portion of the SIGSEC program. Since that time, the following significant actions have been accomplished: a checklist was developed and forwarded to the field for execution by the local SIGSEC manager which would yield the overall SIGSEC posture (1973); a command-wide inventory was prepared of all potentially TEMPEST hazardous information equipment (1974); inquiries were sent to the field and a list was compiled of all contractors doing business with AMC who routinely process classified information; and staff visits were made to seven AMC activities.

Communications and Message Centers

(U) The Secretary of Defense issued a Memorandum in July 1968 referencing a Congressional committee report (The House Appropriations Committee Surveys and Investigations Staff Report on the Effectiveness of DOD Communications Worldwide, February, 1968) that criticized the excessive message center functions in the Army and Air Force. Accordingly, DA issued the policy and supporting objective to expeditiously

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DF, Cmt 1, AMCP-A, Director, AMC HQ, PT&FD, 20 November 1974, subject: Revision to HQ Organization/Communications-Electronics.

achieve the consolidation and integration of communications center and message center functions, with responsibility assigned to the communications-electronics staff officer.

(U) USAMC attained the DA objective by completing the integration, consolidation, and placement of management responsibility for this function under the staff communications-electronics officer. The significance of this completed action within USAMC was related to the existence of the capability to apply automation to an integrated/consolidated functional area performing message processing, with responsibility placed under a single manager.

Automatic Digital Network (AUTODIN)

(U) AUTODIN is a worldwide common user digital communications network for transmission of record traffic. It is a major element of the Defense Communications System and the principal system for transmission of record communications. At the beginning of FY 1975, there were 55 AUTODIN data terminals operating in the command. The data terminals provided a combined service of both data transmission (card and magnetic tape) and teletypewriter transmission (narrative). The terminals fell into two categories: government-owned and leased terminals. A total of 29 government-owned terminals are operating in the command, plus 19 leased systems for a grand total of 48 systems at year's end. Preliminary requirements data was developed and forwarded to higher headquarters for the new AUTODIN system announced by the Defense Communications Agency. The new AUTODIN system was to be called the Integrated Data Network. 46

Automated Telecommunications Center (ATCC)

(U) During FY 1972, a specification for competitive procurement of 20 ATCCs was approved by DA and forwarded to the contracting officer for processing. The contract for the Redstone Arsenal ATCC was awarded in April 1973 with an installation date of October 1974. Installation of the system began in late FY 1974 and became operational August 1975. The system for Letterkenny AD was approved during 2d quarter FY 1974 and plans formulated for site preparation and subsequent installation and operational dates. Justifications for automation of telecommunications were prepared for HQ AMC, AVSCOM/TROSCOM, Aberdeen/Edgewood, TACOM, New Cumberland, Log Control Activity, Red River, ECOM, ARMCOM, Tobyhanna, and Lexington. Approximately six months was required to prepare each justification document. An additional 12-18 months was estimated for final DA/DOD approval.

Communications and Automatic Data Processing (ADP) Disk Interface

(U) A working group, formed in FY 1969 for development of a system design and software program to interface the ALPHA computer to an AUTODIN terminal, completed its task. The group consisted of representatives from the USAMC Installations and Services Agency, Automated Logistics Management Support Agency, Logistics System Support Agency and the US Army Aviation Systems Command (USAAVSCOM). The USAAVSCOM was tasked to augment their present communications equipment with a disk and communications links for disk interface testing. The AUTODIN terminal at USAAVSCOM had been expanded in FY 1972 to accommodate the test. Software development of both C-E and ADP equipment was finalized. The test of system design and software programs, scheduled for December 1972, was successful and full implementation of the operational interface was made at USAAVSCOM. The next phase would be the development of a channel-to-channel interface involving unlike computers to an AUTODIN ATCC. The Army Communications Command (ACC) was scheduled to participate in this program. The on-line interface was planned to be installed at all ALPHA, SPEEDEX, TEAMUP, data banks, and large computer operations requiring AUTODIN service. The first installation to receive this interface will be Letterkenny AD with an operational target date of March 1976.

Automatic Voice Network (AUTOVON)

(U) The AUTOVON is the principal long-haul, voice communications network of the DOD. The network is under the operational direction of the Defense Communications Agency. The AUTOVON handles essential command operations, intelligence, logistics, diplomatic, and administrative traffic. The Automatic Secure Voice Network (AUTOSEVOCOM) is a subsystem of the AUTOVON. There are 26 AUTOSEVOCOM terminals at 16 AMC major subordinate command and installations on a selective basis.

(U) At the close of FY 1975, USAMC installations and activities were supported by 1060 AUTOVON circuits as compared to 1068 AUTOVON circuits at the close of FY 1974. DOD/DCA budgetary restrictions on AUTOVON service limits the number of circuits to be installed.⁴⁷ During FY 1974, numerous common-user AUTOVON circuits were disconnected due to reconfiguration of the network and inactivation, consolidation, and placing on stand-by of some AMC installations. Some of the disconnected AUTOVON circuits were reused as trade-offs for circuits required at other AMC installations. The AMC Command and Control (C&C) requirements were being provided by four AUTOVON voice circuits terminating in a 608 switchboard located in the AMC Operations Center.

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Message, ACSC-E, DA, 220247Z August 1970, subject: Effect of Budgetary Restrictions on AUTOVON Service.

CHAPTER II

RESOURCES MANAGEMENT: PERSONNEL, FUNDING, AND PROPERTY

Force Development

Manpower Program Development

(U) The development of the manpower program is an integral part of the development of the Army Materiel Command Program and Budget. The program results in the Program and Budget Guidance (PBG) from DA, which is subsequently allocated as the AMC PBG to the Major Subordinate Commands and separate activities reporting to Headquarters AMC. All manpower program and budgetary requirements are coordinated with the Comptroller, appropriate Program and/or Mission Directors, and PT&FD. DOD and DA REFLEX manpower requirements are included.

Program Development Events

(U) The AMC Command Budget Estimate (CBE) for FY 75, which included only OMA and FHMA appropriations, was based on initial FY 75 manpower guidance provided by DA.¹ The Command Operating Budget (COB) for FY 75, developed in FY 74, includes civilian manpower requirements for all appropriations.

(U) The Budget Execution Review (BER) for FY 75 was submitted to DA in December 1974. It was based on the 6 November 1974 OMA Fund Authorization Documents, and DA Letter instructions dated 25 October 1974. The cost for Civilian Pay Raises for FY 75 was overprogrammed in the BER. The Manpower portion covered all appropriations.²

Manpower Allocations Management

(U) Fiscal Year 1975 Civilian and Military Personnel Reductions AMC was reduced by a net of -592 in Civilian Employment Projection (CEP) and -307 military authorized spaces in FY 75.

(U) The initial Civilian Employment Projection (CEP) for AMC at the beginning of FY 75 was 117,729. Of this CEP, 114,885 were Full Time Permanent (FTP) spaces and the balance (2,844) Temporary or

1

Command Budget Estimate FY 75, Commander's Statement.

2

See Summary of Civilian Personnel Analysis in Ltr, AMCCP-BO, 12 Dec 74, subj: FY 1975 Budget Execution Review, RCS-CSCAB-205.

Part Time (TPT) spaces. (See Figure 1.) The end FY 75 CEP was 117,137 (a reduction of -592). Of this, 110,199 were FTP and 6,938 were TPT positions reflecting a decrease of -4,686 FTP and an increase of +4,094 TPT positions from beginning FY 75. The reduction of -4,686 FTP CEP for end FY 75 based on Congressional ceilings (the Defense Appropriation Act, Public Law 93.365, 5 August 1974), placed AMC in the untenable position of a possible massive Reduction-in-Force (RIF) unless relief was granted by DA. When informed of this possibility, DA on 25 October 1974 granted AMC overstrength authority of 2,513 CEP for FY 75.³ Subsequently, DA approved overstrength for an additional 68 CEP in support of the project Manager, Iranian Aircraft Program. This brought AMC's overstrength authority to a total of 2,581 for end FY 75.

(U) Actual civilian strength was reduced from 120,953 at end FY 74 to 116,939 at end FY 75, a reduction of 4,014. This actual strength of 116,939 at end FY 75 consisted of 114,173 FTP employees and 2,766 TPT employees. (See Figure 2.)

(U) The military authorization for AMC at the beginning of FY 75 was 11,326 (3,460 officers; 285 warrant officers; 7,581 enlisted) and at the end FY 75 the authorization was 11,019 (3,453 officers; 281 warrant officers; 7,285 enlisted) for a net loss of 307 military spaces (-7 officers; -4 warrant officers; -296 enlisted). The net loss of 307 military spaces consisted of several adjustments. The major reduction was the inactivation of the Floating Aircraft Maintenance Facility (FAMF), which was designated the US Army 1st Transportation Battalion (Aircraft Depot Maintenance) Seaborne, and which operated from the US Naval Ship (USNS) Corpus Christi Bay, home port Corpus Christi, Texas.⁴

AMC Officer Projected Requisitioning Authority (PRA) FY 75

(U) The PRA provided for the first half of FY 75 permitted 100 percent coverage of AMC's authorized TD/TOE positions. For the last quarter of FY 75 the PRA coverage was 99.8 percent. Adequate requisitioning authority was provided throughout the fiscal year.

3

Ltr, DAMO-FDP, DA, to CG, AMC, "USAMC FY 75 Civilian Manpower Ceilings," 25 October 1974.

4

Chapter I, Historical Summary, Dir, Personnel, Training and Force Development FY 1972, FY 1973 and FY 1974.

THIS TABLE REFLECTS THE ADJUSTMENTS IN USAMC MILITARY AUTHORIZATIONS AND CIVILIAN EMPLOYMENT PROJECTIONS

	MILITARY				CIVILIAN EMPLOYMENT PROJECTION		
	TOTAL	OFF	WO	EM	TOTAL	FTP	TPT
END FY 74	11,326 ^{1/}	3,460	285	7,581	117,729 ^{3/}	114,885	2,844
END FY 75	11,019 ^{2/}	3,453	281	7,285	117,137 ^{4/5/}	110,199	6,938
FY 75 +/-	-307	-7	-4	-296	-592	-4,686	+4,094

1/ Includes 16 OFF and 3 EM for OPM Saudi Arabian National Guard (SANG) Modernization Program non-chargeable to AMC; and 7 OFF for OPM Iranian Aircraft Program (IAP) chargeable.

2/ Includes 16 OFF and 3 EM for OPM SANG and 7 OFF for OPM IAP non-chargeable to AMC at end FY 75.

3/ Includes 6,111 DOD REFLEX.

4/ Includes 6,123 DOD REFLEX.

5/ Excludes 2,581 overstrength.

Figure 1

MAJOR ARMY MATERIEL COMMAND ACTIVITIES
ACTUAL CIVILIAN STRENGTH

		<u>30 JUNE 1974</u>		<u>30 JUNE 1975</u>	
	<u>TOTAL (less DOD REFLEX)</u>	<u>DOD REFLEX</u>	<u>TOTAL (incl. REFLEX)</u>	<u>TOTAL (incl. REFLEX)</u>	<u>DIFFERENCE</u>
TOTAL	114,522	6,431	120,953	116,939	-4,014
(FTP)	(109,936)	(6,128)	(116,064)	(114,173)	(-1,891)
(TPT)	(4,586)	(303)	(4,889)	(2,766)	(-2,123)
HQ AMC	1,859		1,859	1,855	-4
SUB-MACOMS	65,202	4,860	70,062	61,423	-8,639
DEPOTS	38,661		38,661	40,528	+1,867
PROJECT MANAGERS	971		971	892	-79
RESEARCH LABS	1,998	1,571	3,569	6,052 ^{1/}	+2,483
LOG CONTROL ACTIVITIES	1,686		1,686	1,705	+19
COMMAND MGT ACTIVITIES	1,503		1,503	1,453	-50
TRAINING ACTIVITIES	649		649	685	+36
IG FIELD OFFICES	35		35	34	-1
LOG ASSISTANCE OFFICE	92		92	124	+32
AMC CAREER INTERN PROGRAM	1,089		1,089	1,425	+336
ALL OTHER	777		777	763	-14

^{1/} Includes MERDC (1325) which was charged to Sub-MACOMs in FY 74.

Figure 2

Management of Officer Grade Authorization (MOGA)

(U) During the 4th Qtr FY 74 AMC received from DA the annual officer-by-grade authorizations for FY 75. No adjustments to this MOGA were received from DA and it remained in effect throughout FY 75.

Manpower Guidance/Ceilings

(U) In FY 74, AMC activities were delegated unlimited Temporary or Part Time (TPT) hiring authority. This flexibility in employment of TPT's was with the proviso that they be mission essential and fully supportable within approved funding. In anticipation of Congressional numerical ceilings on FY 75 civilian employment, AMC activities were enjoined to reduce TPT employment (by attrition) to the level authorized in the AMC Program and Budget Guidance (PBG) document, and the "no ceiling policy" on TPT employment was rescinded.⁵ In addition to impending Congressional ceilings, the President announced a reduction of 40,000 in the Federal civilian workforce. It was then foreseen that the total civilian employment in AMC would be significantly lower than that authorized to AMC field activities in the AMC Program and Budget Guidance (PBG) document. Accordingly, AMC activities were issued interim hiring guidance and limitations. By this guidance all AMC activities were held to their respective FTP/TPT total on-board strength as reported for 31 August 1974, or as reflected in the PBG document, whichever was the lesser. Maximum effort was to be made to reach the new ceilings by attrition. Certain activities and specific positions were exempt from these limitations based on priority of mission or function.⁶

(U) In November 1974, DA provided AMC with a new civilian ceiling for end FY 75, which required a reduction of over 3,500 civilian authorizations. The then current AMC manpower program was analyzed. This included the DA reduction required, known required priority increases, Congressional reductions, actual strengths and existing vacancies, and other management factors. Based on this analysis, a decision briefing was presented to the Deputy Commander, AMC on 19 November 74. Except for minor changes, the recommended reductions were approved. This resulted in a reduction of -3,102 civilian authorizations to AMC field activities (Sub-MACOM's -1,179; all other -129). AMC field activities were issued standard instructions relative to implementing the reductions, and guidance was issued on future manpower management procedures.⁷

5

Message, AMCPT-SA, AMC, "Hiring Guidance", 062000Z September 1974, to all AMC field activities.

6

Message, AMCPT-SA, AMC, "Hiring Guidance/Limitations" 272052Z September 1974, to all AMC field activities.

7

Message, AMCPT-SA, AMC, "Hiring Guidance/Limitations" 261432Z November 1974, to all AMC field activities (sample).

DOD REFLEX activities were exempt from the above reductions, whereas DA REFLEX activities were directed not to exceed the FTP/TPT level reflected in their Program and Budget Guidance (PBG) document notwithstanding their DA REFLEX status. Thus, under the guidance prevailing during the last half of FY 75, AMC was 198 CEP understrength, with an overage of 3,974 FTP and a shortfall of 4,172 TPT as follows:

	<u>TOTAL</u>	<u>FTP</u>	<u>TPT</u>
Authorized	117,137	110,199	6,938
Actual	<u>116,939</u>	<u>114,173</u>	<u>2,766</u>
Difference (+/-)	-198	+3,974	-4,172

However, with the 2,581 overstrength granted by DA for end FY 72, AMC was understrength by 2,779 CEP, 730 FTP, 2,049 TPT as follows:

	<u>TOTAL</u>	<u>FTP</u>	<u>TPT</u>
Authorized	119,718	114,903	4,815
Actual	<u>116,939</u>	<u>114,173</u>	<u>2,766</u>
Difference (+/-)	-2,779	-730	-2,049

REFLEX

(U) REFLEX is a test program designed to test the concept of using fiscal controls instead of both fiscal controls and manpower controls to manage operations of selected activities. During FY 75, two additional REFLEX tests were proposed. An Army Materiel Acquisition Review Committee (AMARC), was established by the Secretary of the Army as an ad hoc group in December 1973, and was tasked to conduct a comprehensive review and analysis of the Army's materiel acquisition process and make recommendations for improvement. One of its recommendations was to extend REFLEX to include all RDTE activities (AMARC recommendation PA-15). Under AMC's FY 75 Program Plan (Major Program Objectives), Goal 4, Objective 5, Programmed Task No. PT-1, AMC was to expand REFLEX to include all laboratories, depots and arsenals. This latter REFLEX task was deleted from the AMC FY 75 Program Plan by the CofS, AMC in May 1975.

(U) The decision to cancel the placing of all laboratories, depots and arsenals under REFLEX was based on the proposed growth in the size of REFLEX as opposed to Congressional civilian limitations, since unrestrained manpower growth in REFLEX activities must be offset by reductions in non-REFLEX activities elsewhere in AMC.

(U) The plan for the extension of REFLEX to all RDTE activities (AMARC recommendation PA-15) was forwarded to DA on 11 April 1975. It proposed that all REFLEX in AMC be exempt from civilian ceilings in the same manner as DOD REFLEX. In response thereto, DA disapproved⁸ the exclusion of DA REFLEX civilian spaces from AMC's manpower ceiling. AMC therefore had no other recourse than to proceed with the extension of REFLEX to RDTE activities placing same within the DA REFLEX concept in lieu of the DOD REFLEX concept. Accordingly, plans were formulated to implement the AMARC recommendation (PA-15) early in FY 76. (Project REFLEX data is at Figure 3.)

Manpower for Foreign Military Sales Mission

(U) In March 1975, the Deputy Secretary of Defense expressed his concern that DOD elements may not be performing Foreign Military Sales (FMS) responsibilities in a sufficiently careful and responsive manner. In April 1975, the CofS, DA directed AMC to submit a report identifying AMC's efforts to improve FMS procedures, the manpower effort currently being utilized in support of FMS, and the additional military and civilian manpower required for this program. AMC's response to DA pointed out that AMC has more than adequately supported the FMS program.⁹ The report further reflected that AMC was expending 3,570 manyears (112 military, 3,458 civilian) in this effort, and that AMC required an increase of 765 additional manpower spaces (32 military, 733 civilian) in FY 76 to adequately support the significant projected increase in FMS cases. DA unofficially advised AMC that a response to AMC's request for additional manpower spaces would be forthcoming early in FY 76.

Manpower Utilization

(U) Surveys, Studies and Projects FY 1975 saw a continuation of the critical review of military and civilian resources required to accomplish essential workload in face of dwindling resources. Thirty-three manpower surveys were programmed¹⁰ covering approximately 23,000 spaces. Twenty-three manpower surveys were accomplished covering approximately 15,000 spaces. Because of curtailment in TDY funds by DA in the 3rd and 4th Qtrs, FY 75, ten surveys were cancelled covering approximately 8,000 spaces.

8

1st Ind, DAMO-FDP, DA, to CG, AMC, "Extension of REFLEX Test in AMC", 1 May 1975, to: Ltr, AMCPT-SA, CofS, AMC to ODCSOPS, DA, same subj, 11 April 1975.

9

1st Ind, AMCIL-S- AMC, to CofS, DA, "Foreign Military Sales (FMS)", 19 May 75, to: Ltr, CofS, DA to CG, AMC same subj: 28 April 1975.

10

DA Form 1845, FY 75 Schedule of Manpower Surveys dtd 16 Aug 74.

PROJECT REFLEX DATA					
<u>TEST</u>	<u>STARTED</u>	<u>SPACES WITHDRAWN</u>	<u>30 JUN 74 ACTUAL</u>	<u>30 JUN 75 ACTUAL</u>	<u>DIFFERENCE 74 vs 75</u>
REFLEX (DOD) Labs	1 JUL 70	6,111	6,431	6,159	-272
AVSCOM (AMRDL)		FTP (5,982)	(6,128)	(5,870)	(-258)
ECOM Labs		TPT (129)	(303)	(289)	(-14)
MERDC					
Harry Diamond Labs					
REFLEX (Army) Labs	1 OCT 72	5,705	5,773	5,747	-26
MICOM-MS I RD		FTP (5,705)	(5,603)	(5,597)	(-6)
& Engr Lab		TPT (0)	(170)	(150)	(-20)
MICOM-Mob Sys Lab					
ARMCOM-Rodman & Benet Labs					
Natick Dev Cen					
AMMRC					
BRL					
HEL					
REFLEX (Army) Extended	1 JUL 73	10,492	11,008	10,468	-540
Picatinny Ars		FTP (10,140)	(10,840)	(10,078)	(-762)
Red River Ar Dep		TPT (352)	(168)	(390)	(+222)
TOTAL REFLEX		22,308	23,212	22,374	-838

Figure 3

During the conduct of manpower surveys, the provisions of AMCR 570-4 with regard to the 1:10 supervisory ratio and 1:5 clerical ratio as contained in FY 75 Program Task No. PT-9 were applied. Participation in special manpower-related studies and surveys during FY 75 included: study to develop an implementation plan for conversion of AMC Commodity Commands to AMC Systems Command, 8 July - 11 September 1974; at request of CG, MICOM, a manpower survey of DA Field Office, Eastern Test Range, Patrick Air Force Base, 19-20 September 1974;¹¹ at direction of the Chief of Staff, AMC, a manpower survey of Industrial Management Division, Directorate for R&P, 8-16 July 1974;¹² at direction of the Chief of Staff, AMC, an AMC study group concerning the organizational re-alignment, staffing and operating procedures of housing activities within AMC Headquarters and the field installations;¹³ at the request of HQ DA, an evaluation of the manpower survey program, March 1975. Recommendations were forwarded to HQ DA;¹⁴ at the request of CG, TACOM, assistance to a TACOM "Should Cost Team" to evaluate a proposal from Chrysler Corporation relative to the M60A1 Tank, 17 March - 10 April and 21 April - 9 May 1975;¹⁵ Defense Integrated Management Engineering System (DIMES) (Work Measurement) reviews at various depots during the year;¹⁶

11

(a) Ltr, AMXMI-PM, 19 Jul 74, subj: Request for Manpower Management Survey. (b) 1st Ind, AMXMM-TS, 23 Sep 74, subj: Request for Manpower Management Survey.

12

(a) AMCCS Memo for Dir, PT&FD, 13 May 74, subject: AMC Interface Study. (b) Memo for Chief of Staff, AMCPT-S, 29 Jul 74, subject: Special Manpower Survey, Industrial Management Division, Dir, R&P.

13

(a) AMCGS Form 5, Directed Action, 14 Mar 74, subj: Family Housing Management. (b) DF, AMCPT-S, 16 May 75, subj: AMC Housing Management Study.

14

(a) Ltr, DAPE-PBA, HQ DA, undtd, subj: Evaluation of the Manpower Survey Program. (b) Ltr, AMCPT-S, 28 Mar 75, subj: Evaluation of the Manpower Survey Program.

15

(a) Cdr, TACOM messages, 061300Z Mar 75 and 151230Z Apr 75, subj: M60A1 Should Cost. (b) Memo for D, PT&FD, AMXMM-TS, 19 May 74, subj: Trip Report - Should Cost Team of M60A1 Tank.

16

Memo for Comptroller, AMCPT-SU, 21 Feb 74, subj: Defense Integrated Management Engineering System (DIMES) Reviews & DF, AMCCP-MI, 29 Oct 74, same subject.

documentation of manpower savings resulting from implementation of SPEEDEX and ALPHA; study to develop a model depot Directorate for Management Information Systems organization and staffing guide; 17 AMC ad hoc group at Rock Island, IL, 3-28 May 1975, to develop alternative concept plans for establishment of a single manager for conventional ammunition; 18 and at request of Commander, Maintenance Management Center, a special review of manpower requirements of the Maintenance Management Center, 16-19 June 1975. 19

Depot Staffing Guide

(U) In May 1974, the Department of the Army assigned AMC the responsibility for the development and approval of DA Pam 570-566, Staffing Guide for US Army Depots. Approval authority was rescinded in October 1974 by DA letter which clarified the roles of HQ DA (DCSPER) and the MACOMs with respect to development, updating and approval of DA staffing guides. The Directorate of Personnel, Training and Force Development, HQ AMC, was subsequently assigned the responsibility for developing the pamphlet. 20

(U) The Staffing Guide for US Army Depots must be revised every three years; the last revision was dated April 1971. However, because of the transfer of responsibility from DA to the MACOMs for all staffing guides, some slippage in revision dates was informally granted by DA. Thus, a publication date of February 1976 was established for the revised edition of DA Pam 570-566 by DA and AMC representatives on 18 February 1975. 21

Utilization of Military Personnel

(U) In 1974 the Command Group, AMC, approved a plan which emphasized the reduction of military in support (administrative) type positions

17

DF, AMCCP-M, 23 Apr 74, subj: Management Engineering Study, Dir for MLS-Sacramento Army Depot and CMT 2, AMCPT-SU, undtd, same subject.

18

(a) Ltr, AMCPA, 25 Apr 75, subj: Study Directive - Concept Plan for Establishment of a Single Manager for Conventional Ammunition. (b) Memo for Record, AMXMM-TS, 3 Jul 75, subj: Trip Report - Concept Study for Establishment of Single Service Manager for Conventional Ammunition.

19

Memo for Dir, PT&FD, 30 Jun 75, subj: Staff Visit to Maintenance Management Center, 16-19 Jun 75.

20

(a) Ltr, DAAG-PAP-A(M) (1 May 75) DACS-XM, 6 May 74, subj: Reorganization of the Army Staff. (b) Ltr, DAAG-PAP-A(M) (8 Oct 74) DAPE-PBA, 22 Oct 74 subj: Approval Authority for DA Staffing Guides.

21

Memorandum for Record, AMCPT-SU, 8 Apr 75, subj: Depot Staffing Guide (18 February Meeting).

(Category III) and the increase of hardcore mission or essential administrative type assignments for military personnel (Categories I & II). Commanders were directed to perform a three-category analysis of their authorized military personnel spaces and report results to HQ AMC.²² The accelerated decrease of military in Category III type positions from 22% to 19% in early 1974 was due to reduced military authorizations and was projected to reach 8-10% by the end of 1975. Manpower surveys and TDA reviews would continue to question the use of military in any but hardcore or essential administrative positions. AMC Commanders were aggressively implementing the program.

Manpower Requirements for Depot Data Processing

(U) Historically, AMC had not had firm criteria by which it could determine whether or not it was properly allocating manpower resources to data processing functions in its depots. This problem is not unique to AMC; no organization, private or governmental, has established firm manpower allocation criteria covering the gamut of data processing activities including key-punching, computer operations, systems analysis, and programming. During the past year, AMC has been conducting a management engineering study precisely to establish those criteria.²³ The study (still in progress) is establishing quantitative criteria for numbers of people required and, also, is determining the best organizational structure and job skills necessary in depot data processing organizations.

The Army Authorization Documents System-TAADS/VTADDS Policy Developments

(U) The Standard Quarterly TDA/MTOE Submission Schedule was updated by letter dated 17 June 1975²⁴ to reflect the numerous changes in AMC units (i.e., new, discontinued, reassigned, redesignated, inactivated units). This letter also announced the DA change in the update MOB TDA submission requirement from biennial to annual.

(U) There were major DA policy changes during FY 75 relative to the withdrawal of delegation of authority to HQ AMC for military changes in TAADS. DA Circular 611-41, dated March 1975, withdrew, immediately, proponent authority to change grades in TDA/MTOE for all enlisted positions not in accordance with standards of grade authorization (SGA). The advance copy of AR 310-49 (effective 15 August 1975) announced this change as well as the withdrawal of

22

Msg, AMCPT-SU, 121953Z Apr 74, subj: Force Development and Manpower Management Policies for TDA Organizations.

23

Ltr, AMCCP-MI, HQ AMC, 16 May 74, subj: Management Engineering Study, Directorate for Management Information Systems - Sacramento Army Depot.

24

Ltr, AMCPT-S, 17 Jun 75, subj: Revised Standard Quarterly TDA/MTOE Submission Schedule.

proponent delegated authority to make military MOS changes. The draft AR 310-49 also announced a DA modification/restriction of selected delegation of authority to proponents. In order to provide for an orderly and timely implementation, AMC commands and activities were informed of the policy changes and AMC delegations of authority were withdrawn effective 1 July 1975.²⁵

(U) In an effort to improve the quality of the authorization documents and utilization of resources, in accordance with AMC Goal #7, "Manage and Operate with the minimum application of resources - facilities, personnel, dollars," AMC headquarters continued to review TAAADS documents during post audit for compliance with staffing criteria and other published directives. During June 1975, in compliance with Goal #7 for FY 76, manual extracts were made to produce baseline data and quantitative performance targets for supervisor ration and deputy, assistant, and executive officer positions.

General Orders

(U) During FY 74, the Manpower TDA Branch conducted a study and initiated action to reduce the number of general orders required to announce TDA/MTOE actions. As reported in FY 74 Historical Summary, the Department of the Army accepted the AMC recommendation and adopted it Army-wide. In requesting DA approval, AMC projected that the general order workload would be reduced by 83 percent. Using as a base the FY 74 total of 541 general orders published, AMC reduced the total number (106 GOs) by 80.5 percent in FY 75. However, 36 of these general orders were one-time VTAADS conversion orders. The total of typical, continuing type general orders was 70 which reflects an 87.1 percent reduction. It is apparent, therefore, that the general order policy change resulted in savings well within the 83 percent projected reduction.

(U) At the start of FY 75, AMC had a total of 207 units, 13 of which were MTOE. At the close of FY 75, there were 207 units including 10 MTOE. During the FY, 10 units were organized and 10 were discontinued. In addition, 14 units were redesignated and 4 units were reassigned. A total of 1,461 submissions/changes to TDA/MTOE documents were processed during FY 75 in the following categories:

²⁵ Msg, AMCPT-S, 091435Z, subj: DA Changes to Delegation of Authority.

Initial FY 75/76	214
CIAR/IARM (MOS/LIN edits)	308
Update FY 74/75/76	627
MOB TDA:	
Updates	86
CCDS	<u>226</u>
	<u>312</u>
TOTAL PROCESSED	1,461

In addition 894 DA approved or acknowledged documents were processed.

Civilian Personnel Management

Introduction

(U) During fiscal year 1975, there was a leveling off of the downward trend in actual civilian strength brought about partially by the unsettled economic conditions which had the effect of stabilizing the Federal employment. However, consolidations, reductions-in-force, reorganizations, and retrenchment continue to cause turbulence in the civilian workforce. The volume and nature of congressional correspondence, grievances, civil court and union involvement evidence an increasingly audible workforce that is viewed as a probable continuing trend.

Training and Development

Attendance at Top Level Programs

(U) It is the policy of AMC to develop the managerial skills of managers and potential managers to meet its present and future needs. This includes the identification and development of employees who possess high potential for advancement to managerial positions. 26 To carry out this policy, commanders at all levels are required to develop and execute a progressive management development program. In consonance with the policy during FY 75, a total of 17 employees attended top level programs. (See Figure 4.)

Quality Staffing in Project Management Offices

(U) A need for priority actions to assure the staffing of Project Management Offices (PMOs) with highly qualified civilians was identified in 1975, and a number of positive steps were taken or requested. The

26

Letter, HQ USAMC, AMCPT-CMD, 27 Dec 72, subject: Civilian Executive Development Program.

TOP LEVEL TRAINING PROGRAMS

56

<u>Name of Program</u>	<u>Number Attended</u>	<u>Participating Commands</u>
Army Comptrollership Program	1	(1-White Sands Missile Range)
Secretary Army R&D Fellowship	4	(1-ECOM; 2-ARMCOM; 1-APG)
Education for Public Mgt	7	(1-HQ AMC; 1-MICOM; 1-Frankford Ars; 1-ECOM and 3-TACOM)
Industrial College of the Armed Forces	2	HQ AMC
Armed Forces Staff College	1	Harry Diamond Laboratories
Army War College	1	HQ AMC
President's Executive Interchange Program	1	HQ AMC

Figure 4

principal action by HQ AMC was a complete revision of the governing Department of the Army Civilian Personnel Regulation governing PM staffing. A draft of the revised regulation was transmitted to HQDA in February 1975.

(U) Other actions were in the form of directives to HQDA, MSC commanders, Project Managers, and Command Career Program Managers regarding the priority nature of PM staffing and actions which should be taken to improve the quality and timeliness thereof.

Improvement of AMC Talent Bank

(U) During FY 75, an AMC Talent Bank Task Group was established to review the operations of the AMC Talent Bank and to take actions to improve the usefulness of the Talent Bank in meeting AMC staffing needs. Various projects were undertaken in FY 75 by this Task Group, and other improvements were initiated by the Career Management and Development Branch, Civilian Personnel Division, Directorate of Personnel, Training and Force Development. Talent Bank improvements during FY 75 were: reconciliation of AMC Talent Bank data with CIVPERSINS data; purification of erroneous and obsolete experience codes; developing a new format of work force analysis; and decentralization of engineer and scientist's career referrals.

Position and Pay Management

AMC Average Grade Reduction

(U) As a result of the requirement levied by the Office of Management and Budget upon DA of a .15 reduction in average grade in FY 73 and an additional .15 in FY 74, AMC was required to reduce the GS average grade by .155 in FY 73 and again by .155 in FY 74. The FY 74 average grade reduction objective assigned by DA to AMC was 8.3188. On 30 June 1974 the AMC-wide average grade was 8.3428; however, as of 31 July 1974 AMC attained and exceeded the assigned objective with an actual average grade of 8.3042.²⁷ An FY 75 average grade ceiling of 8.5548 was assigned by DA to AMC. As of 31 March 1975 AMC was within ceiling limitations with an actual average grade of 8.4571.

Survey of Supergrade and 10 USC 1581 (PL 313)

(U) In response to requirement of the Under Secretary of the Army for an Army-wide study, AMC reviewed all supergrade and PL 313 authorizations of the command to assure current need and to determine priority

27

(1) Fact Sheet, AMCPT, from Dir, PT&FD to Civ Pers Supp Div, AMC, "Progress in Achieving AMC Average Grade Reduction Objectives," Sep 74; (2)

ranking of the positions recommended for continuance or authorization. Current requirements and priorities for supergrade and PL 313 positions were established on a Department of the Army-wide basis.²⁸

Incentive Awards

(U) The AMC Incentive Awards Review Board (IARB) considers nominations for awards requiring action by the CG AMC, DA, DOD or higher levels. During Fiscal Year 1975, the IARB considered 135 nominations and the DCG, AMC approved 71 of these nominations. The following award nominations were received for consideration:

DOD Distinguished Civilian Service	1
Decoration for Exceptional Civilian Service	12
Meritorious Civilian Service	16
Secretary of the Army's Materiel	
Acquisition Award	14
R&D Achievement Award	52
EEO Award	9
AMC Systems Analysis Award	8
Handicapped Employee of the	
Year Award	8
Arthur S. Flemming Award	6
Presidential Management Improvement	
Award	4
Federal Woman's Award	5

Decoration for Exceptional Civilian Service (DECS)

(U) The Secretary of the Army awarded the Army's highest honorary award to 15 AMC employees during FY 1975. Seven awards were made based on courageous acts on the part of employees in emergency situations. Eight others received the DECS for their outstanding and dedicated service to the Department of the Army.

Meritorious Civilian Service Award

(U) During FY 1975, the DCG, AMC awarded six employees the Meritorious Civilian Service Medal for demonstrating unusual courage and competence. Six other employees received this award for their highly dedicated performance.

28

DA Memo, CEPB, from OAS to Members of Exc Pers Board, "Supergrade and PL 313 Requirements Study, "23 Oct 74; (3) Letter AMCPT-C, from Dir, PT&FD to AMC Commanders, "Supergrade and PL 313 Requirements Study," 5 Nov 74; (4) Letter, DAAG-PAP-A, from Ofc of Adj Gen, DA to Gen Distribution, "Survey of Supergrade and 10 USC 1581 (PL 313) Authorizations and Requirements, CSGPA-(OT)-1324," 13 Nov 74; (5) Letter, AMCPT-CP, from HQ, AMC to HQDA, "Survey of Supergrade and 10 USC 1581 (PL 313) Authorizations and Requirements, CSGPA-OT-1324," 9 Dec 74. (6) DA Priority Listing, Jan 75.

Outstanding Federal Handicapped Employee of the Year Award

(U) The AMC Employee who in last year's competition was named as a runner-up to the CSC Handicapped Employee of the Year went on to achieve the highest recognition in this year's contest. The Secretary of the Army awarded Mr. Fred C. Lilley, Benefits and Services Administrator, AVSCOM, the Meritorious Civilian Service Award as the DA Handicapped Employee of the Year. Then, in a subsequent ceremony at the Department of Commerce Auditorium, Mr. Lilley received an award as one of ten co-winners named as Outstanding Federal Handicapped Employees from the Vice-President of the United States. His award was in recognition of the caliber of his performance in conducting a services program that is beneficial not only to AVSCOM employees, but to the surrounding communities as well.

Materiel Acquisition Award - FY 1973

(U) In February 1975, the Secretary of the Army selected seven of AMC's FY 1973 achievements to receive the Award for Outstanding Achievement in Materiel Acquisition. The CG, AMC, presented Certificates of Achievement to the following laureates in lieu of the official DA accouterments which were still in the process of being developed at the end of the fiscal year: Mr. John W. Bruce, Jr., Procurement Officer, GS-15 TACOM, whose innovative work in competitive prototype contracting for the XM-1 Tank System was a step forward in the tank automotive field; Mr. William J. Tropf, Jr. (deceased), Operations Research Analyst, GS-16, HQ, AMC, who made significant contributions to the development of new cost estimating concepts in materiel acquisition management; Mr. Clement H. Nichols, Chemical Engineer, GS-12, ARMCOM, who developed a production facility for the propellant nitroguanidine; Mr. Orville D. Pearl, Chief, Production Division, GS-14, TROSCOM, who was instrumental in the development of the Production Surveillance System design; LTC Leonard S. Marella, Chief, Cost Performance Reporting Division, HQ, AMC, who improved contractor and in-house cost and schedule control systems used in major defense acquisition; The Decision Risk Analysis Team, US Army Logistics Management Center (12 members), who developed Decision Analysis Methodology; and Mr. Robert H. Mountford, Jr., Supervisory Mechanical Engineer, GS-15, ARMCOM (and two others), who managed the procurement and production of the M1103 Inertial Fuse for the Pershing Missile Nuclear Warhead Section.

Army R&D Achievement Award

(U) An impressive group of 52 AMC nominees competed for recognition of the FY 1975 R&D Achievement Award. The DCG, AMC, submitted 33 of these nominations to DA for further consideration, and 20 of the AMC candidates were chosen as winners. There were nine individual nominations, including one female, and 11 group winners.

AMC Systems Analysis Award

(U) The DCG, AMC, selected three winners from eight nominations submitted for the annual Systems Analysis Award. Five individual nominations and three group nominations were received. In the group category, a team of four MICOM employees headed by Mr. Kilmer L. Hall, Electronic Engineer, GS-13, was named as the winner for improvements to data collection, conversion, and transmission subsystems associated with three missile hardware simulation chambers under construction. Two nominations were selected as co-winners in the individual category, Mr. Arthur T. Stanley, Physicist, GS-12, MERDC, for his Controllable Barrier System studies, and Dr. Martin Messinger, Physical Science Analyst, GS-13, for his work in advancing the state of the art in mine methodology.

EEO Award

(U) Again this year, an AMC representative was among those designated by the Secretary of the Army as winners of the Award for Outstanding Achievement in Equal Employment Opportunity. Since this award was established in 1970, AMC has had one or both of the co-winners in each year's competition. The Secretary presented the award to Dr. Priscilla B. Ransohoff, Staff Assistant for Education, GS-12, ECOM, at a ceremony in his office on 6 June 1975. Dr. Ransohoff's selection as a co-winner of the 1973 EEO award qualified her to be named as the first recipient of AMC's ACTION Award. The Director of Personnel, Training and Force Development acted for the CG, AMC, in presenting the AMC Certificate of Appreciation to Dr. Ransohoff as the Action Award Winner. (The AMC Action Award, AMCP 690-4, was established in September 1973 to enhance equality and opportunity of employment in AMC; it has not been awarded previously at AMC level since a 1973 DA winner was not designated by the Secretary until the Ransohoff selection.)

Energy Conservation Award

(U) The CG, AMC established an Energy Conservation Award during the 4th Quarter of FY 1974 to recognize outstanding individual and group achievements in conserving our energy resources. Mr. Lee V. Bracken, Operating Engineer, WS-13, Tooele Army Depot, achieved the distinction of being selected as the first AMC Energy Conservation Award winner for his vigorous conduct of an energy campaign resulting in savings of \$359,617 at Tooele and \$155,230 at Umatilla Army Depot. On a quarterly basis, one MSC and one Depot also received the energy award based on a statistical reduction in energy consumption as monitored by the Director of Installations and Services.

(U) Through FY 1975, the following organizational awards were presented:

<u>Period</u>	<u>MSC and Depot Winner</u>	<u>Reduction</u>
4th Qtr FY 74	TROSCOM	49.96%
	PUAD	43.12%
1st Qtr FY 75	AVSCOM	65%
	SHARPE	26%
	PUEBLO	24%
2nd Qtr FY 75	ARMCOM	20%
	SENECA	34%

(U) These achievements compare with a DA Goal of 15 percent reduction in FY 74 over FY 73 use, and an AMC Goal of 20 percent. During FY 75, the DA Goal was reduced to maintaining the same rate of consumption as during FY 74 while AMC imposed a further reduction of 10 percent.

Arthur S. Flemming Award

(U) In the keen competition for the FY 75 Arthur S. Flemming Award, AMC received the distinction of having one of its candidates, Dr. Arthur D. Ballatto, Electronic Engineer, GS-13, ECOM, receive the endorsement of the CSC to the Flemming Commission as a finalist. Although he did not survive the final screening, Dr. Ballatto's work in developing a new generation of frequency selective micro-acoustic devices brought him greater success with this high level award than any AMC employee in recent years.

Military Personnel Management

Introduction

(U) During FY 1976, a downward trend in assigned military personnel continued as a result of consolidation, realignment, reduction and closure of commands and activities. Personnel turbulence reduced and efforts were increased to improve the quality of personnel.

The Army Education Services Plan

(U) The Education Services Plan (ESP) became operational on 1 July 1974. It forms the basis for management of the installation GED program

and is based upon the needs of military personnel and units stationed or satellited on the installation.²⁹

Officer Personnel Management System

(U) The officer personnel management system consists of policies and procedures by which commissioned officers of the Army are procured, trained, assigned, developed, evaluated, promoted, and separated from active duty. Its purpose is to increase the effectiveness and professionalism of the US Army Officer Corps.³⁰

Consolidation of Military Personnel Activities (COMPACT)

(U) COMPACT is the HQDA approved plan for the consolidation of all Army military personnel offices (MILPOs) and CONUS installations and overseas equivalent. Under this concept, most military personnel offices on an installation are to be consolidated and organized into a single personnel activity.³¹

Reserve Component Training

(U) Phase-down of the active Army caused a proportional increase in Army Reserve training requirements. At 22 AMC installations, 196 Reserve component units had been assigned for training as of end FY 75, a 20 percent increase over FY 74 and a still greater increase over FY 73. AMC recognition of this escalation in numbers and importance of Reserve readiness was promulgated to affected field activities in April 1975 in the form of a policy regulation.³²

29

Ltr, AMCPT-MT, 22 Jul 74, subject: The Army Education Services Plan.

30

Ltr, AMCPT-MT, 19 Sep 74, subject: Officer Personnel Management System.

31

Ltr, AMCPT-MT, 21 Mar 75, subject: Implementation of Consolidation of Military Personnel Activities.

32

Tabulation, Reserve Component Units Training at AMC Installations (FY 75 and FY 76). App F, AMCR 350-5, 9 Apr 75, subject: Reserve Component (US Army) Training.

Command Personnel Management Inspection (CPMI)

(U) The AMC Command Personnel Management Inspection Team conducted inspections of AMC command/activities during FY 1975 to evaluate the effectiveness of military personnel management in accordance with AR 600-61 and DA Pamphlet 600-7. Military Personnel Offices were assisted in improving procedures and correcting deficiencies in order to provide better service and support of the military personnel assigned to this command. The percent of accuracy for FY 1975 averaged 86% per record.³³

Mobilization Designation (MOBDES) Program

(U) The percentage of fill of MOBDES positions at end of FY 75 was presently 78%, which was the highest fill since the start of the program in AMC. This was primarily the result of an intensified personnel management program both at this headquarters and the USA Reserve Component Personnel and Administrative Center, St. Louis, Missouri. The MOBDES program was expanded to include Warrant Officers and enlisted personnel.³⁴

Requirements for Officers with Graduate Level Education

(U) Once a year, the Army Education Requirements Board (AERB) solicits an update of positions that are to be filled with officers possessing graduate degrees. At the beginning of FY 1976, there were approximately 700 AMC TDA officer positions validated for masters degrees by the AERB. For FY 1977, 474 renewals and recommendations for 338 new positions were submitted.³⁵

Logistics Training Activities

New Equipment Training

(U) AMC TRADOC Training Interface. On 29 May 1974, ARMCOM was tasked by HQ AMC to establish and chair a task group to develop procedures for commodity commands to provide input and influence service schools' MOS training. This requirement resulted from the AMC Interface Study, Void 2-4, which identified a void in coordination between AMC commodity commands and TRADOC service schools in development of

33

AR 600-61, "Command Personnel Management Inspection."

34

AR 140-145, "Mobilization Designations."

35

AR 621-108 "Military Personnel Requirements for Graduate Level Education."

training programs for new equipment.³⁶ The study was completed in July and a report was furnished TRADOC in August. In September, TRADOC was provided points of contact for each commodity command and a listing of each command's respective commodity area.³⁷ To complete the training interface in October, TRADOC provided AMC points of contact for each service school for interchange of training/maintenance data.³⁸

Development Centers/Logistics Centers (DC/LC) Studies

(U) The Directorate was significantly involved in the new equipment training (NET) aspect of the DC/LC studies generated by AMARC (Army Materiel Acquisition Review Committee) decisions. Approved studies reflected three different concepts for the execution of the NET program; all NET to be accomplished by the DC; all NET to be accomplished by the LC; and NET accomplished by the DC until achievement of initial operational capability, then responsibility of LC.

(U) Based on input from NET personnel at the commodity commands, AMETA and an in-house study, a decision was reached that NET should be a responsibility of only one command throughout its life cycle and could be most efficiently managed in the DC. Such a recommendation was made to the Director, Plans & Analysis.³⁹ No action had been taken on the recommendation by the end of the fiscal year.

Race Relations/Equal Employment Opportunity Program

Introduction

(U) During FY 75, increased emphasis was placed on monitoring affirmative actions. Statistical gathering to establish possible discriminatory trends within AMC was also emphasized. The RR/EO and EEO training program was formalized in CY 75 by AMC Regulation 600-3 which shifted training responsibility to the Civilian Personnel Office with necessary guidance and resources furnished by the RR/EO and EEO offices.

36

Ltr, AMCPT-TN, from A/Dir, PT&FD to CDR, USATRADO, "AMC Interface Study," 8 Aug 75.

37

Ltr, AMCPT-TN, from C, S&NET Div to CDR, USATRADO, "AMC Points of Contact (POC) for Training Interface," 20 Sep 74.

38

Ltr, ATTN-SC-A, from GS the Schools Division, USATRADO to CDR, USAMC, "TRADO Points of Contact (POC) for Training Interface," 22 Oct 74.

39

Summary Sheet, AMCPT-TN, from Dir, PT&FD to Dir, Plans & Analysis, "Placement of the New Equipment Training (NET) Function in Separate Development Centers and Logistics Centers," 8 May 1975.

(U) FY 75 Budgetary Constraints precluded the accomplishment of staff assistance visits to four major subordinate commands, two depots and one center. The impact was minimized through telephonic and correspondence channels; however, it was planned that these activities would receive priority attention in FY 76.

Equal Opportunity

(U) During FY 1975, Staff Assistance Visits were made to 15 AMC subordinate activities.⁴⁰

(U) The US Army Health Services Command sponsored three regional Equal Opportunity Conferences on 9-13 September 1975 at San Antonio, Texas, on 23-27 September 1974 at San Francisco, California, and 7-11 October 1974 at Philadelphia, Pennsylvania. RR/EO and EEO personnel from HQ AMC, ECOM, MICOM, and TECOM participated in the conferences.⁴¹ Colonel Carroll represented the command at a HQ DA (DAPE-HRR) working conference for major Army commands at the Pentagon on 3-5 December 1974. Recommendations from the conference have assisted HQ DA in developing RR/EO program policy guidance for the field. On 9 April 1975, an updated AMC RR/EO Affirmative

40

Memo, AMCPT-R, to Acting Dir, PT&FD, "Trip Report-Pueblo and Corpus Christi Army Depot, 19-23 Aug 74," 17 September 1974; Memo, AMCPT-R, to Dir, PT&FD, "Trip Reports-Anniston Army Depot (ANAD), 10 Sep 74, US Army Missile Command (MICOM), 11-12 Sep 74, and Lexington-Blue Grass Army Depot (LBAD), 13 Sep 74," 7 October 1974; Memo, AMCPT-R, to Dir, PT&FD, "Trip Reports-US Army Electronics Command (ECOM), 11-13 Nov 74 and US Army Test and Evaluation Command (TECOM), 14-15 Nov 74," 27 November 1974; Memo, AMCPT-R, to Dir, PT&FD, "Trip Reports-Tobyhanna Army Depot (TOAD), 18-19 Nov 74 and New Cumberland Army Depot (NCAD), 29 Nov 74," 17 December 1974; Memo, AMCPT-R, to Dir, PT&FD, "Trip Reports-Letterkenny Army Depot (LEAD), 24 Oct 74 and Seneca Army Depot (SEAD), 31 Oct 74," 20 December 1974; Memo, AMCPT-R, to Dir, PT&FD, "Trip Reports-Tooele Army Depot (TEAD), 7 Apr 75 and Sierra Army Depot (SIAD), 10 Apr 74," 12 May 1975; Memo AMCPT-R, to Dir, PT&FD, "Trip Reports-Savanna Army Depot (SVAD), 22 Apr 75 and Red River Army Depot (RRAD), 24-25 Apr 75," 5 June 1975.

41

Ltr, HSC-EO, to Cdr, AMC, "US Army Health Services Command Equal Opportunity Conferences," 22 July 1974, with 1st Ind, AMCPT-R, to Cdr, US Army Health Services Command, same subject, 28 August 1974.

42

Ltr, AMCPT-R, to HQDA (DAPE-HRR), "Race Relations/Equal Opportunity (RR/EO) Director's Conference," 13 November 1974.

Actions Plan was finalized and disseminated to AMC subordinate activities.⁴³ On 28 May 1975, this office furnished HQ DA a requested analysis of the draft revised DA Affirmative Actions Plan.⁴⁴

Race Relations

(U) The CY 1974 RR/EO and EEO training program ended 31 December 1974 with 93,498 AMC military and civilian personnel, of which 13,208 were supervisors and 80,290 were nonsupervisors, having attended some training throughout the command. On 17 January 1975, several personnel from AMC participated in an EEO Civilian Supervisors Training Conference hosted by ODCSPER, HQ DA.⁴⁵

(U) Memorial services commemorating the anniversary of the birth of Rev. Dr. Martin Luther King, Jr., were held throughout AMC on 15 January 1975,⁴⁶ and National Black History Week was observed by each AMC activity during 9-16 February 1975.⁴⁷

(U) To accomplish the requisite training program, there was a continuing need for qualified race relations instructors. Instructor training was provided by two sources; (Defense Race Relations Institute) and URRDLC (Unit Race Relations Discussion Leaders Course). The courses and number of individuals trained during FY 1975 are as follows:

	<u>OFFICER</u>	<u>WO</u>	<u>ENLISTED</u>	<u>CIVILIAN</u>
DDRI:	4	0	10	1
URRDLCL:	12	0	16	18

43

Ltr, AMCPT-R, from Dir, PT&FD to each AMC activity, "US Army Materiel Command Race Relations and Equal Opportunity Affirmative Actions Plan (AAP)," 9 April 1975.

44

Ltr, AMCPT-R, from Dir, PT&FD to HQDA (DAPE-HRR), "Department of the Army Affirmative Actions Plan," 28 May 1975.

45

Ltr, AMCPT-R, from Dir, PT&FD to HQ DA (DAPE-MP), "Equal Employment Opportunity Training," 19 December 1974.

46

Memo, AMCPT-R, to Dir, PT&FD, "Dr. Martin Luther King, Jr.'s Birthday," 6 January 1975.

47

Memo, AMCPT-R, from Dir, PT&FD to AMC Chief of Staff, "National Black History Week," 22 January 1975.

Alcohol and Drug Abuse Program

Introduction

(U) With few exceptions the AMC Alcohol & Drug Abuse Prevention and Control Program (ADACP) attained its objectives in FY 75. Progress was made in furtherance of supervisory and employee training and rehabilitation of personnel with alcohol and drug abuse problems. The latter accomplishment was realized in spite of recent procedures entailing more stringent requirements for the enrollment of personnel in the rehabilitative phase of the program.

Training Efforts

(U) AMC was allocated 72 spaces for the training of AMC personnel at three DA sponsored courses; United States Army Alcohol and Drug Abuse Team Training; United States Army Drug and Alcohol Rehabilitation Training and Civilian Programs Coordinators' Conference.⁴⁹ All but four spaces were filled. Training involved securing skills in the recognition of signs and symptoms of alcohol and drug abuse.

Identification and Rehabilitation

(U) As of June 30, 865 military and civilian personnel were enrolled in the ADAPCP. AMC major subordinate commands and installations were required to submit ADAPCP reports. Clinical confirmation of alcohol or drug abuse by a physician is required before personnel can participate in the rehabilitative phase of the ADAPCP.⁵⁰ This procedure has brought about some problems. Some installation programs have experienced difficulty obtaining clinical confirmation from both private and occupational Health Physicians. Some physicians either are unable or unwilling to give a clinical confirmation of alcoholism or drug abuse. The immediate result has been a downward trend of enrolled clients.

Conclusion

(U) FY 75 in some ways has been an unstable period for the ADAPCP. Implementation of pertinent Federal regulations as well as Army directives has required flexibility on the part of program personnel. Some commanders faced with space ceilings or cutbacks, have been unable or unwilling to fill vacancies. Changes in program

49

Msg, DAPE-HRA, "Training Course for Civilian Alcohol and Drug Program Administrators and Coordinators (CPA and CPC)," 181235Z Sep 74

50

Msg, DAPE-HRA, "Alcohol and Drug Program Statistics," 062133Z Dec 74

personnel at some installations have produced uneven services. Yet, commanders and program personnel have managed with the vicissitudes of the program and have contributed to the AMC goal of improving the quality of the AMC Alcohol and Drug Abuse prevention and control program and the program work force.

Headquarters Personnel and Manpower Operations

Manpower Authorization

(U) During FY 75, the base authorization for Headquarters AMC was reduced from 2,210 (243 military, 1,967 civilian) to 2,122 (224 military, 1,898 civilian). This resulted in a civilian (General Schedule) overall average grade reduction from 10.75 to 10.70. The FY 75 reduction-in-force involved issuance of 170 letters, of which 26 ended in downgrades. No separations resulted.

Organizational Changes

(U) These reductions, approved by the Deputy Commanding General in December 1974,⁵¹ included sizable reductions in the directorates of Research, Development and Engineering and Requirements and Procurement, necessitating internal reorganization.

(U) A number of other significant organization changes were effected during the year. The Office of the Deputy for Laboratories was disestablished; an Office of Chief Scientist and an Office of Laboratory Management were established. An Office of Special Assistant for Research, Development and Acquisition Analysis was created. The Communications-Electronics Division of the Directorate of Installations and Services was established as a separate Directorate of Communications and Electronics. The Family Housing Branch of the Real Property Management Division, Directorate of I&S, became the Housing Management Division. An Environmental Office was created in the Directorate of I&S. In the Directorate of Supply, a DOD Management Distribution Systems Office was established. The title of the Office of the General Counsel was changed to Office of the Command Counsel. Minor changes were made within the Directorate of Personnel, Training and Force Development.

Union Organized - Local 1332 NFFE

(U) On 27 August and 19 September 1974, elections were held within the Headquarters. As a result, Local 1332, National Federation of Federal Employees, was certified as the exclusive representative of

⁵¹

Memorandum for Record, AMXMM-SM, by Dir, PT&FD, "Decision Briefing re: HQ AMC Reduction Plan," 17 Dec 74.

of Headquarters AMC employees. The local is divided into two units-- one for nonsupervisory General Schedule professional employees and one for nonsupervisory General Schedule non-professional employees. Negotiations on the contract were begun on 12 June 1975 and were still in progress at the end of the fiscal year.

Military Personnel Affairs

(U) Conversion to SIDPERS. The Headquarters Military Personnel Office underwent a successful conversion to the Army's automated personnel system, SIDPERS (Standard Installation/Division Personnel System). By the end of FY 1975, conversion was about 95% complete, with only a small number of automated reports not yet fully utilized.

Alcohol and Drug Abuse Control

(U) Alcohol abuse was determined to be the principal area of concern for the Headquarters Alcohol and Drug Abuse (A&DA) Office, which had been established in FY 74. The problem equated to a "half million dollar hangover," according to the Office Chief.

(U) In an effort to cope with the alcohol and drug abuse problem, the HQ A&DA Office developed an educational and training program for managers, supervisors and all other personnel. A rehabilitation and treatment program consisting of in-house counseling and referral to other sources was expanded. In addition, the A&DA Office reinstated a drug identification program (urinalysis testing) for eligible military participants. To make AMC Headquarters more aware of the program, the HQ A&DA office expanded its visibility through use of announcements with pay checks, bulletin board advertisements and films. The aim was to expedite early identification of personnel with alcohol and drug problems. ⁵²

Race Relations/Equal Opportunity

(U) Personnel of the Headquarters Race Relations/Equal Opportunity (RR/EO) Office spent an active year promoting the education of Headquarters personnel regarding race relations, combating sexism, and fostering equal opportunity.

(U) As first attempts in "domestic actions," the HQ RR/EO Office in July conducted a training seminar at Northern Virginia Community College.

52

DF, AMXMM-AD, from Chief, HQ A&DA Ofc to Dir, PT&FD, "May Staff Review," 13 May 75.

Then in September, a Headquarters group attended the PUSH (People United to Save Humanity) Exposition '74 in Chicago. Information and material were obtained for a pictorial display on the theme of "Save the Worker" proposed for the Headquarters' projected Black History Week.⁵³ On 17 January 1975, the first Headquarters AMC Race Relations/Equal Opportunity Affirmative Actions Plan was disseminated which included a policy statement signed by the AMC Chief of Staff pinpointing objectives to be achieved within headquarters.⁵⁴

(U) The calendar year 1975 training program in race relations, equal opportunity (military) and equal employment opportunity (civilian) was started in April 1975. This was the first of a two-phase program which would include eight hours of training for all AMC Headquarters personnel.⁵⁵

(U) In honor of the birthday of Dr. Martin Luther King, Jr., on 15 January 1975, a memorial service was conducted. Guest speakers at the service included the Reverend Ralph Abernathy, Director, Southern Christian Leadership Conference, and the Most Reverend Eugene A. Marino, Auxiliary Bishop of Washington. Two gospel singing groups entertained at a reception to which all Headquarters personnel were invited.⁵⁶ Then, during the week of 10-14 February 1975, National Black History Week was observed at Headquarters. The week's activities included guest speakers, an art exhibit, films and a fashion show.⁵⁷

53

Memo, AMXMM-RR, from Chief, HQ RR/EO Ofc to Dir, PT&FD, "Trip Report-- PUSH EXPO '74, Chicago, Illinois, 25-29 September 1974," 16 Oct 74.

54

Memo, AMXMM-RR, from Chief of Staff, AMC for Directors and Office Chiefs, "Headquarters, USAMC Race Relations/Equal Opportunity Affirmative Actions Plan," 17 Jan 75.

55

Memo, AMXMM-CO, from Chief of Staff, AMC to Directors and Office Chiefs, "Managerial & Supervisory EEO & RR/EO Training for CY 75," 14 March 1975

56

HQ AMC Plan, Dr. Martin Luther King, Jr. Birthday Commemoration.

57

HQ AMC Plan, Black History Week.

Comptroller Mission and Organization

(U) It is the mission of the Comptroller's Office to: Provide direction for, and supervise overall management of, financial matters. Establish and prescribe procedures for the AMC resource forecasting, budget system, cost analysis, economic analysis, management research and analysis, accounting system, internal review, audit compliance, and review and analysis of command programs; determine and obtain financial resources required to accomplish missions of AMC; supervise the AMC Cost Analysis Program; develop and maintain an effective financial and management control system and procedures for safeguarding and achieving optimum use of resources; provide independent review and analysis of mission and program accomplishment, and resource availability and obligation as a basis for management decisions; provide management analysis of management systems, methods, and techniques as a basis for improving management within AMC; direct the AMC Management Improvement Program; serve as Functional Chief for the Comptroller Career Program; direct the AMC Internal Review Program and the audit of non-appropriated funds. Serve as principal point of contact for the General Accounting Office (GAO); the Deputy Comptroller for Internal Audit (DCIA) (DOD); and the US Army Audit Agency (USAA); direct and supervise the AMC Defense Integrated Management Engineering Systems (DIMES). During FY 1975, the Director of the Comptroller Division was Brigadier General L. R. Sears, Jr.

Overview

(U) During FY 1975, the major thrust of the Comptroller Directorate continued toward increasing the efficiency and effectiveness of all activities throughout AMC. New programs and systems introduced and/or implemented were: The "Transition Budget," a first step in implementing the Congressional Budget and Impoundment Act of 1974; completion of the study to combine Systems and Cost Analysis within AMC; review and validation of weapons systems cost estimates which included "Baseline Cost Estimates (BCEs), "Reassessments (BCERs)," and "Product Improvement Proposals (PIP);" the "Standard Army Civilian policies to meet the new configuration of AMC resulting from reorganizations generated by the CONCISE and AMARC programs. Efforts along these lines are described below.

Budget

(U) During Fiscal Year 1975, the Budget Division was confronted with an environment of rising costs due to inflation and diminishing funds resulting from Congressional budget reductions. To exist during this critical period, the Budget Division continued to pursue policies to reduce the workload in the field and implement more effective procedures at HQ AMC. The "Transition Budget" was approved as the first step towards implementation of the Congressional Budget and Impoundment Act of 1974. The Division continued to meet the ever

OFFICE OF THE COMPTROLLER

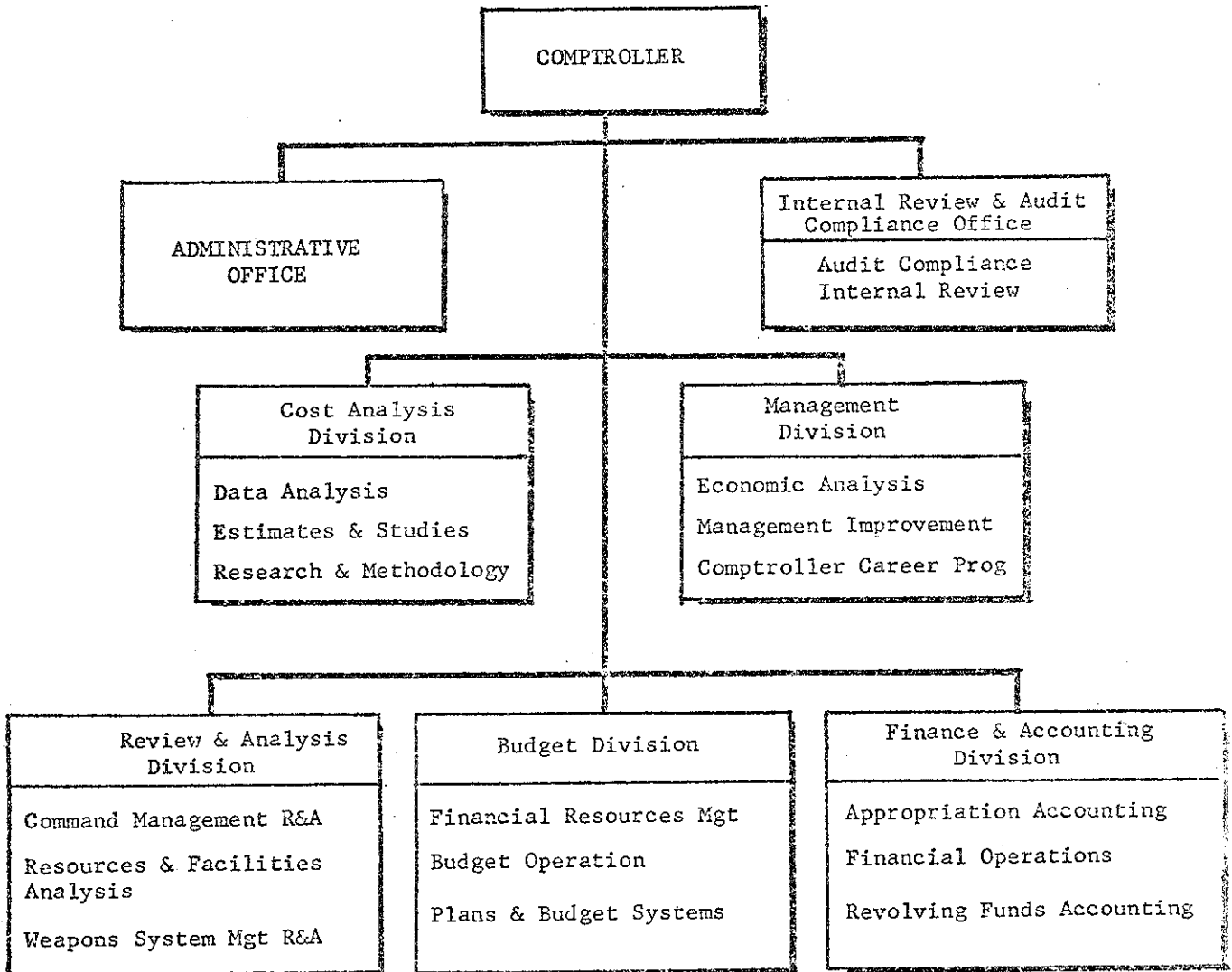


Figure 5

increasing challenges by performing its assigned mission with the necessary flexibility and innovativeness demanded by the economic turbulence that existed throughout the year.

Cost Analysis

(U) The Cost Analysis Division effort was directed toward increased responsiveness of the cost analysis community to the needs for completing required studies and other program activities associated with the DA and OSD materiel acquisition management process. Major activities included continued coordination, direction and participation in the preparation of Independent Parametric Cost Estimates (IPCEs) for major weapons systems; completion of a number of Cost and Operational Effectiveness Analyses (COEAs) on weapons systems now in the acquisition process; preparation and publication of a preliminary draft AMC guide for organizing and presenting cost studies; review and validation of many weapon system cost estimates, including Baseline Cost Estimates (BCEs), Reassessments (BCERs), Review and Command Assessment Proposals (PIPs); and implementation of an AMARC recommendation to consider combining Systems Analysis and Cost Analysis within AMC. The resulting System and Cost Analysis Organization Study (SCANOS) was performed by AMETA, in coordination with this division. Results were presented to the Deputy Commander, AMC.

Finance and Accounting

(U) Emphasis on the standardization and automation of finance and accounting operations and payroll systems and preparation for, and participation in, reorganization and restructuring of the command under the CONCISE and AMARC programs, plus increased emphasis on professionalism in finance and accounting management and operations were the principal operations of the Finance and Accounting Division during FY 1975. The reduction and termination of American involvement in combat operations in Southeast Asia and escalation of the Foreign Military Sales program in other parts of the world had heavy impact. Other areas receiving emphasis were the Alpha program wherein the decision was made to defer implementation of the PEMARS segment; the Standard Army Civilian Payroll System (STARCIPS) which was developed and later refined during the year by the Computer Systems Command; and finance and accounting policies which were developed to meet the new configuration of AMC resulting from the reorganizations generated by the CONCISE and AMARC programs.

Internal Review and Audit Compliance

(U) Analysis of FY 1975 commandwide internal review performance disclosed that balanced coverage of installation functions, procedures and operations was achieved. The amount of audit effort directed to special and unprogrammed reviews indicated that commanders were using their internal review staffs in their preferred role of "trouble shooters."

(U) Audit compliance workload declined in the first half of the fiscal year due, in some measure, to DA-imposed travel constraints. The establishment of additional audit agency residencies offset these constraints to the point that second half workload approached normal levels of audit activity.

(U) Short reply deadlines contributed to an excessive number of late audit responses in October-November 1974 and January 1975. This impacted adversely on overall reply timeliness for the year which fell below performance rates for fiscal years 1973 and 1974. Of the 204 audit replies prepared during FY 1975, 85 percent were processed to DA on time. A commandwide campaign to improve the quality of AMC external audit positions was formally initiated on 2 December 1974.

(U) During FY 75, the Army Audit Agency initiated two major financial management audits within AMC. These audits were concerned with the effectiveness of financial management, accounting controls and overall administration of AMC's customer order program and the status of PEMA and RDTE unobligated and unpaid fund balances. And FY 1975 marked the fourth consecutive year in which the Army Audit Agency requested AMC assistance in developing the agency's annual Army/Command-wide audit program. Audit topics proposed by AMC for inclusion in the FY 1976 program were submitted to AAA for consideration and review by the Army Staff Inspection Audit Priority Committee.

Management

(U) The accomplishments of the Management Division during FY 75 were particularly noteworthy because of the diversity of projects and studies undertaken and the tremendous emphasis on economy of operations. The major thrust had been directed toward developing studies and techniques that would improve the productivity of the Army Materiel Command.

(U) The Total Resource Efficiency and Effectiveness Study (TREES), Energy Conservation Study, Job Description Index (JDI) and Organizational Investment Analysis (OIA) were projects initiated in FY 75 to provide new techniques for assessing performance resource utilization. A primary objective of the Management Division was to continue to provide innovative approaches to management procedures and processes.

(U) Successful concepts that received expanded emphasis in FY 75 included the Defense Integrated Management Engineering System (DIMES), Productivity Enhancing Capital Investment Program (PECIP) and the Efficiency Trend Evaluation System. These programs and systems proved to be useful to commanders and managers at all levels.

(U) Other on-going actions such as the Comptroller Career Program, Idea Interchange, Economic Analysis Program and the Management Improvement Program have also contributed significantly to the accomplishment of the AMC mission in FY 75.

Review and Analysis

(U) On the command level, the Deputy Commander, AMC was not comfortable regarding the value of the performance indicators used to measure logistics readiness. He was concerned about AMC's apparent incapability to precisely overview the entire materiel life cycle. On 10 July 1975, the Deputy Commander, LTG W. W. Vaughn, asked Headquarters, AMC managers to think about and come up with a better method of measuring logistics performance over the entire materiel life cycle with particular emphasis upon materiel acquisition and especially the development area. General Vaughn was not convinced that AMC's current system for measuring performance was doing the job. He wondered if the indicators were being used to upgrade materiel readiness.⁵⁸

(U) The major emphasis of the Review and Analysis Division continued toward sharpening of requisite techniques in evaluating overall AMC mission accomplishment with special emphasis on availability of materiels. The thrust of these evaluative efforts was aimed at acquisition, reliability and maintainability of equipment with the goal of establishing measures to provide continuous visibility, thus enabling the Command Group, AMC, to provide a better military readiness posture for the Armed Forces of the United States.

(U) Emphasis continued on improving the quality and scope of review and analysis activities in the field as well as the technical competence of program analysts. In addition to staff visits to field installations, meetings were held with new installation Commanders and Comptrollers where mutual problems were discussed and resolved.

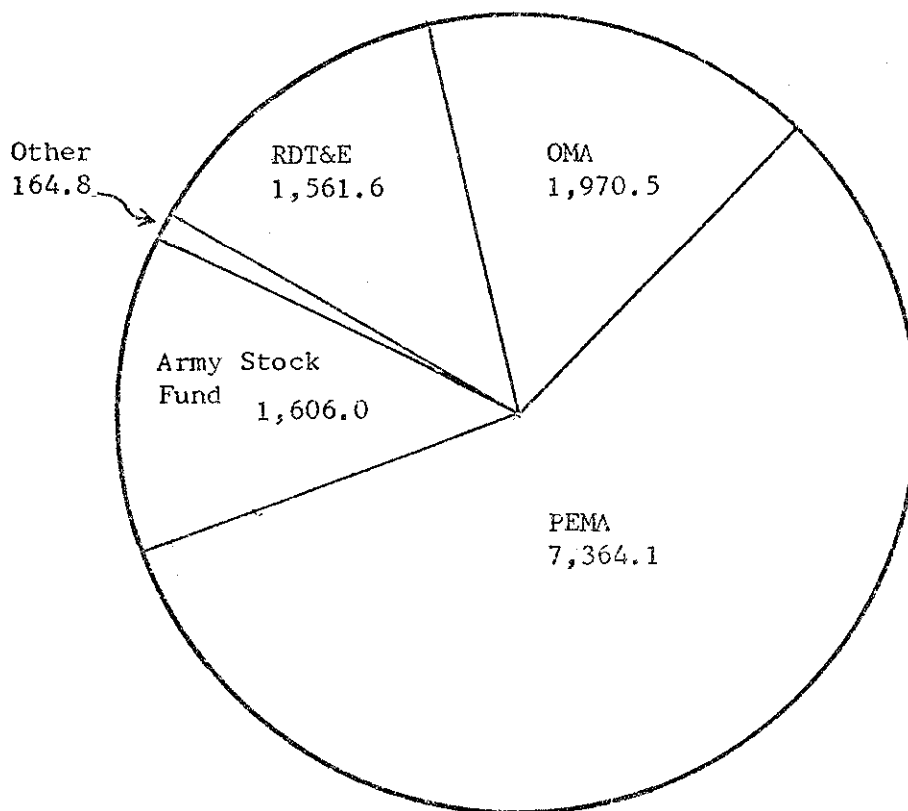
(U) AMC's FY 75 funding programs are depicted on the figures 6-13 following:

(a) AMC Performance Briefing, AMC Comptroller to Command Group, 10 July 1975, Subject: AMC Overall Performance Indicator Review and Analysis (OPIRA), Third Quarter, FY 1975 (CAMERA No. 9-76); (b) Memorandum For Record, AMCCP-RA, R. H. Ruhland, Deputy Comptroller, AMC, 16 July 1976, Subject: same as above; (c) Author's notes of briefing.

TOTAL ARMY PROGRAM RECEIVED
(MILLIONS OF DOLLARS)

TOTAL FY 75: \$12,667.0

As of 30 Jun 75



FISCAL YEARS	TOTAL PROGRAM RECEIVED	OMA	PEMA	RDT&E	ARMY STOCK FUND	OTHER
72	9,288.0	1,826.9	4,898.6	1,461.2	986.1	115.2
73	9,520.7	1,845.7	5,042.2	1,362.9	1,126.9	143.0
74	10,231.7	1,938.5	5,181.9	1,567.9	1,377.1	(1)166.3
75	12,667.0	1,970.5	7,364.1	1,561.6	1,606.0	(1)164.8

(1) Includes 19.5 million Family Housing Management Account, 96.8 million programmed reserve to Army Industrial Fund from orders funded outside AMC complex, and 27.7 million for Advanced Research Projects Agency Orders.

Figure 6

PROGRAM DISTRIBUTION BY COMMAND
FY 72 THRU FY 75
(MILLIONS OF DOLLARS)

COMMAND	FY 72	FY 73	FY 74	FY 75
HEADQUARTERS	1,512.1	1,522.2	1,612.7	1,590.6
O&MA	1,078.3	1,096.1	1,155.5	1,044.3
PEMA	2.6	13.8	9.9	26.1
RDT&E	131.2	112.5	94.0	114.7
STOCK FUND	276.1	256.0	261.7	314.7
OTHER	23.9	43.8	91.6	90.8
ARMY TANK AUTO CMD	848.2	1,064.4	1,823.0	1,836.4
O&MA	95.8	105.6	98.3	104.8
PEMA	491.1	598.5	1,255.6	1,188.2
RDT&E	81.8	78.5	110.1	118.8
STOCK FUND	178.5	281.2	357.9	423.5
OTHER	1.0	.6	1.1	1.1
TROOP SUPPORT CMD	320.0	366.7	485.0	414.9
O&MA	67.4	69.5	102.5	111.6
PEMA	179.1	200.8	203.9	126.5
RDT&E	59.0	52.3	71.7	66.6
STOCK FUND	13.4	41.9	102.4	105.8
OTHER	1.1	2.2	4.5	4.4
AVIATION SYSTEMS CMD	769.6	1,147.5	914.9	972.7
O&MA	91.7	91.7	88.1	186.4
PEMA	213.2	664.7	296.5	341.4
RDT&E	281.7	195.8	301.3	252.1
STOCK FUND	182.4	194.1	227.4	191.2
OTHER	.6	1.2	1.6	1.6
MISSILE COMMAND	981.1	1,265.5	1,482.3	2,466.2
O&MA	105.5	101.1	110.4	114.8
PEMA	562.4	777.7	906.3	1,869.6
RDT&E	260.9	304.7	354.3	346.0
STOCK FUND	50.7	64.8	75.8	100.6
OTHER	1.6	17.2	35.5	35.2

Figure 7

PROGRAM DISTRIBUTION BY COMMAND (CONTINUED)
FY 72 THRU FY 75
(MILLIONS OF DOLLARS)

COMMAND	FY 72	FY 73	FY 74	FY 75
ARMAMENT CMD	3,268.5	2,556.1	2,481.4	3,158.8
O&MA	225.3	224.1	299.2	242.7
PEMA	2,770.0	2,070.0	1,942.6	2,527.5
RDT&E	171.3	150.8	153.5	161.7
STOCK FUND	98.8	108.0	149.5	220.4
OTHER	3.1	3.2	6.6	6.5
ELECTRONICS COMMAND	885.5	800.5	816.3	1,058.2
O&MA	136.0	141.9	132.6	138.7
PEMA	403.4	296.7	293.0	471.4
RDT&E	264.2	271.1	276.5	301.5
STOCK FUND	78.9	84.4	101.0	133.5
OTHER	3.0	6.4	13.2	13.1
TEST & EVALUATION CMD	253.5	218.0	220.0	238.6
O&MA	11.5	14.1	12.9	13.8
PEMA	1.5	1.6	2.0	1.8
RDT&E	209.0	185.7	180.7	196.8
STOCK FUND	27.2	10.7	12.2	14.1
OTHER	4.3	5.9	12.2	12.1
AMC TOTAL	8,838.5	8,940.9	9,835.6	12,564.8
O&MA	1,811.5	1,844.0	1,929.5	1,970.5
PEMA	4,623.3	4,623.8	4,909.8	7,364.1
RDT&E	1,459.1	1,351.4	1,542.1	1,561.6
STOCK FUND	906.0	1,041.2	1,287.9	1,503.8
OTHER	38.6	80.5	166.3	164.8

NOTE: ARMAMENT COMMAND PROGRAMS FOR FYs 72 and 73 were derived from combined programs distributed to the former Munitions and Weapons Commands.

Figure 8

OMA BY COMMAND FY 75
(MILLIONS OF DOLLARS)

COMMAND	PROGRAM	OBLIGATIONS	EXPENSES	DISBURSE
HQ, AMC	1,044.3	1,043.6	1,043.6	732.1
AVSCOM	186.4	186.3	186.3	130.0
ECOM	138.7	138.6	138.6	119.4
ARMCOM	242.7	242.6	242.6	188.6
MICOM	114.8	114.7	114.7	95.2
TROSCOM	111.6	111.4	111.4	82.9
TACOM	104.8	104.8	104.8	89.3
TECOM	13.8	13.8	13.8	11.9
SUBTOTAL	1,957.1	1,955.8	1,955.8	1,449.4
UN-ISSUED	13.4			
TOTAL	1,970.5			

Figure 9

PROCUREMENT BY COMMAND
(MILLIONS OF DOLLARS)

CURRENT YEAR ONLY				COMMAND	ALL PRIOR YEARS			
DIRECT ARMY		OTHER CUSTOMER			DIRECT ARMY		OTHER CUSTOMER	
PROG	OBLIG	PROG	OBLIG		PROG	OBLIG	PROG	OBLIG
17.0	16.8	0	0	HQ, AMC	9.1	8.5	0	0
171.0	152.5	68.9	46.3	AVSCOM	38.4	34.7	63.1	27.5
249.1	177.5	65.0	29.3	ECOM	138.8	99.0	18.5	7.2
97.5	86.8	13.6	7.7	TROSCOM	14.5	(41.4)	.9	(.7)
393.0	319.1	1,237.9	518.3	MICOM	102.9	76.0	135.8	92.1
766.8	610.6	1,105.3	521.9	ARMCOM	296.0	182.1	359.4	255.4
468.5	424.5	474.3	341.5	TACOM	122.6	113.9	122.8	69.5
1.7	1.6	--	--	TECOM	.1	.1	--	--
2,164.6	1,789.4	2,965.0	1,465.0	SUBTOTAL	722.4	472.9	700.5	451.0
26.4		52.4		UNAPPLIED	22.9		29.4	
				UNDISTRI	10.0		96.9	
2,181.8		3,600.2		TOTAL	755.3		826.8	

Figure 10

RDT&E BY COMMAND FY 75
(MILLIONS OF DOLLARS)

COMMAND	CURRENT PROGRAM YEARS		PRIOR PROGRAM YEARS		DISBURSE
	PROGRAM	OBLIG	PROGRAM	OBLIG	
HQ AMC	107.3	101.8	7.4	6.7	102.7
AVSCOM	240.5	236.6	11.6	11.6	302.5
ECOM	284.2	269.3	17.3	17.2	281.4
TROSCOM	63.6	60.8	3.0	2.3	70.9
MICOM	313.4	294.4	32.6	32.3	317.9
ARMCOM	150.5	145.9	11.2	11.1	164.8
TACOM	115.3	113.1	3.5	3.4	135.2
TECOM	192.4	188.3	4.4	4.4	197.5
SUBTOTAL	1467.2	1410.2	91.0	89.0	1572.9
UNDISTRIB	2.3		1.1		
TOTAL	1469.5	1410.2	92.1	89.0	1572.9

Figure 11

AMC DIVISION STOCK FUND BY COMMAND - FY 1975
(MILLIONS OF DOLLARS)

COMMAND	PROGRAM	OBLIGATIONS	SALES
HQ AMC	91.6	79.2	67.5
AVSCOM	177.8	144.8	166.2
ECOM	102.3	93.8	60.2
TROSCOM	104.0	90.8	74.0
MICOM	69.3	61.0	40.9
ARMCOM	220.4	186.0	122.6
TACOM	420.4	343.9	262.6
SGO	5.7	5.7	4.5
UNDISTRIBUTED	5.6	---	---
TOTAL	1,197.1	1,005.2	798.5

Figure 12

AMC INSTALLATIONS DIVISION STOCK FUND BY COMMAND
FY 1975
(MILLIONS OF DOLLARS)

COMMAND	PROGRAM	OBLIGATIONS	SALES
HQ AMC	223.1	221.2	214.1
ECOM	31.2	30.2	31.2
MICOM	31.3	29.1	29.2
TACOM	3.1	2.4	2.4
AVSCOM	13.4	13.4	12.4
TECOM	14.1	13.9	14.2
STRATEG COMM	23.3	4.0	23.4
TROSCOM	1.8	1.6	1.7
HSC	55.3	54.8	56.9
ASA	6.7	6.5	6.5
UNDISTRIBUTED	5.6	---	---
TOTAL	408.9	377.1	392.0

Figure 13

Major Activities - Budget Division

New Appropriation for Vietnam in FY 1975

(U) A separate appropriation was established by the Congress in FY 1975 to finance, account for and control the security assistance program for Vietnam. The appropriation was officially called the Defense Assistance for Vietnam (DAV), transferred to Army Account 21-9751087. The appropriation replaced the Military Assistance Service Funded (MASF) program. Under this appropriation, articles and services for Vietnam were furnished under MAP procedures. However, with the collapse of Vietnam this special appropriation for Vietnam was cancelled.

Fair Share Financing of Major Subordinate Command Headquarters

(U) Based upon on-site surveys at all Major Subordinate Commands (MSCs) and criteria used to assess general and administrative support of research and development activities at HQ, US Army Materiel Command, data was compiled and formulas developed to equitably distribute costs between OMA and RDTE at each MSC. Utilizing these data and formulas, AMC requested DA to approve an appropriation transfer from OMA to RDTE effective with FY 1975 of \$4,662,000 and 264 civilian man-years. DA approved the requested reprogramming and in FY 1975 AMC and all of its MSC headquarters operated under Fair Share Financing.

Congressional Travel Limitation

(U) During the 2nd quarter, FY 1975, HQ AMC was alerted to a possible drastic reduction in travel authority to be imposed by Congress through the Roth Amendment. Anticipating this reduction, DA directed that RS 3679 obligational limitation be established and implemented as soon as possible for all appropriations and funds. A limitation for each command and Class II installation reporting directly to HQ AMC was established and a reporting procedure implemented.

(U) Several studies on requirements vs limitations were completed to serve as the basis for AMC to request an increase in limitation from DA. The increase was provided to meet priority travel. Travel associated with Foreign Military Sales was exempted from the limitation.

(U) As the result of Congressional action, the statutory travel limitation was lifted in the 4th quarter. A new target was imposed by DA without RS 3679 implications. Reporting and review of travel expenditures continued throughout FY 1975. Because of the above actions, AMC's travel expenditures, particularly in OMA, were dramatically reduced over prior years.

Establishment of MERDC and Natick as Development Centers

(U) On 7 March 1975, by General Order No. 34, Natick Laboratories and the Mobility Equipment Research Center were redesignated independent

development centers assigned to HQ AMC. Funding and fiscal reporting responsibilities remained with the U. S. Army Troop Support Command through 30 June 1975. There will be a realignment of personnel and funding between the commodity commands and the development centers in FY 1976 to support the new responsibility for first production in their respective mission areas.

Uniform T&E Funding Policy

(U) DOD directed the implementation of a Test and Evaluation (T&E) Funding Policy effective FY 1975. The Comptroller's Office, in conjunction with the AMC R&D Directorate, were tasked to implement the policy. The new policy requires that users of major DOD T&E facilities budget and fund for direct costs associated with testing, and the test facility budget and fund for all indirect costs (costs of operating and maintaining the test facility). After one year of operation, no major inter-service problems were encountered. The Uniform Funding Policy, however, has given rise to a number of common Intra-service problems and concerns. These common problems were to be reassessed after an additional year of experience.

Scope of AIF Operations

(U) During FY 1975, AMC operated the following under the Army Industrial Fund (AIF) system: one subordinate command, seven arsenals, fourteen depots and four research and development facilities. The AIF operating program totaled over \$1.7 billion.

FY 1976 AIF Annual Budget

(U) The FY 1976 AIF Budget Estimates, as submitted to DA, reflected the following operating data:

	(Millions of Dollars)		
	FY 1974	FY 1975	FY 1976
	<u>Actual</u>	<u>Est</u>	<u>Est</u>
Orders	1,663.1	1,627.2	1,698.7
Revenue	1,577.0	1,749.0	1,781.0
Costs	1,594.8	1,715.2	1,770.4
Civilian End Strength	79,478	79,343	81,998
Civilian Manyears	75,332	76,468	78,851

(U) Adjustments made by DA and the Program Budget Decision issued by OSD revised the budget estimates as follows:

	(Millions of Dollars)	
	<u>FY 1975</u>	<u>FY 1976</u>
Orders	1,591.6	1,637.7
Costs	1,696.2	1,716.2
Civilian End Strength	73,698	72,445
Civilian Manyears	75,896	75,151

FY 1976 AIF Apportionment Budget

(U) OSD had directed that an AIF Apportionment Budget be submitted for FY 1976 and FY 197T. The Budget was to be consistent and reconcilable with the customer's apportionment budget estimates. Due to the limited time available for preparation, and considering that minimal change would be required since the submittal of the President's AIF Budget, the AIF Apportionment Budget was staffed developed by HQ AMC, Comptroller Office, Budget Division. A pre-brief was given to DA staff. A formal Budget Review was conducted by OSD/OMB. This Budget reflected the following operating data:

	(Millions of Dollars)		
	<u>FY 1975</u>	<u>FY 1976</u>	<u>FY 197T</u>
Orders	1,618.2	1,742.9	430.4
Revenue	1,740.0	1,841.4	446.5
Costs	1,740.9	1,826.4	448.9
Civilian End Strength	75,767	71,131	69,942
Civilian Manyears	75,002	74,529	17,661

The markup as issued by OSD reduced FY 1976 costs by \$16.4 million and increased FY 197T costs by \$4.4 million.

OMA Resources

(U) The principal challenges confronting the Division in executing the OMA budget during FY 75 were rising costs caused by inflation and effecting program cutbacks well after entering the fiscal year as a result of Congressionally enforced reductions in the budget. The introduction of funding restraints on expenditure of funds for temporary duty travel also created considerable turbulence in the programing of available funds. The receipt of additional funds from DA at end of the year did however, permit the restoration of some contractual programs deferred earlier in the year because of Congressional cutbacks in the budget.

(U) The following represents the OMA funding levels for FY 1975:

(Millions of Dollars)			
<u>FY 1975 CBE</u>	<u>FY 1975 BER</u>	<u>FY 1975 COB</u>	<u>FY 1975 Final Funding</u>
1732.5	1841.1	1726.7	1955.8
<u>Cost Analysis Activities</u>			
<u>Unit Cost Summary Reports (UCSR)</u>			

(U) A unit cost trail was established in summary form for Selected Acquisition Report (SAR) weapon systems. This office and HQ DA jointly identified cost elements and standardized building block definitions to reduce the flow of conflicting cost information. The UCSR is furnished

on a quarterly basis in support of Congressional budget reviews for major weapon systems.

Cost Growth Analysis

(U) During FY 75, an extensive analysis which examined cost growth experienced by weapon systems as evidenced in SAR data was conducted. This information was used widely in briefing for HQ DA and AMC. Plans are underway to develop an automated model for maintaining a current and rapid capability for such analyses during FY 76.

Operating and Support (O&S) Cost Responsibilities

(U) The Comptroller of the Army has required that O&S costs be included in the SAR submission for all SAR systems. Although AMC is responsible for life cycle costs, other commands gather much of the information needed to prepare cost estimates. An analysis was made of the cost elements and required inputs for O&S costs of major weapon systems. Procedures were formulated for participation of TRADOC in O&S cost estimating. Instructions to all appropriate Project Managers and major subordinate commands were prepared and coordinated with COA. Project Managers were instructed to submit data requirements to this office so that coordination with TRADOC can be accomplished.

Cost Estimating Requirements Specification

(U) A proposal was developed and provided to COA and ASA(FM) regarding a "Requirements Specification for Cost Estimating." Major attention was given to what AMC considers necessary guidance to perform cost estimates as opposed to information COA would like to collect from AMC to define the weapon system program. This specification established the requirement for a cost study as well as necessary initial guidance.

Revision to AR 11-18 (The Cost Analysis Program)

(U) The Comptroller of the Army (COA) began a revision of AR 11-18, the basic Army Cost Analysis regulation. Because of the far reaching implications, the draft submitted to this Headquarters in February 1975 was subjected to a thorough analysis both at this Headquarters and at the Major Subordinate Command Cost Analysis Offices. Extensive revisions and comments were provided to COA and numerous discussions were held to reconcile major areas of impact on AMC. COA anticipates publication sometime in FY 76.

AMC/TRADOC Interface

(U) Policy and procedures for the assignment of specific responsibilities in the development of life cycle costs and their incorporation in Letters of Agreement, Letter Requirements, Required Operational Capability documents, Cost and Operational Effectiveness Analyses, Baseline Cost Estimates and Independent Parametric Cost Estimates were drafted

and are to be completed during FY 76. Coordination was being effected with TRADOC to assure consistent policies and procedures for the two Army commands. AMC and TRADOC formed teams for specific weapon systems to establish standard procedures for developing life cycle cost estimates, including Operating and Support Costs. Through experience gained, joint Letters of Instruction are to be prepared to provide policy for future studies.

Reviews of COA Costing Guides

(U) During FY 75, COA prepared Costing Guides for each of the major phases of the Weapon system life cycle - Research and Development (R&D), Investment, and Operating and Support (O&S). Implementation of the guides as originally written would have necessitated a complete restructuring of all existing data bases, cost estimating relationships, definitions and estimates, and would have made cost tracking nearly impossible. The R&D and Investment guides were reviewed in considerable detail and revised to allow use of existing and accepted cost definitions and procedures. The major AMC objections, particularly on cost definitions, were reconciled. COA anticipates publication of the three guides sometime in FY 76.

Inflation Guidance

(U) There were several changes to the inflation guidance during the year. On 30 July 1974, price level indices were revised upward sharply and this was reflected in AMC guidance on 5 September 1974. Later in September, the Office of the Assistant Secretary of the Army (Financial Management) issued revised price level and outlay rates, which were incorporated in AMC guidance on 23 October 1974. In March 1975, two sets of inflation indices were issued; one for SAR (Selected Acquisition Review) and one for Non-SAR systems. The latter set was subsequently rescinded and all systems conformed to the SAR indices. Additional guidance was issued for Ammunitions hardware and Production Base Support. Since inflation guidance had been disseminated on a piecemeal basis for various programs, commodities and purposes, a consolidated inflation guidance letter was to be issued early in FY 76.

Product Improvement Program (PIP)

(U) In FY 75, a Comptroller SOP was published delineating Comptroller responsibilities in the formulation of the AMC Product Improvement Program. The SOP prescribes internal procedures for the receipt, review, evaluation and tracking of individual PIPs and for Comptroller participation in the deliberation of both the AMC Configuration Control Board and its Working Group.

System and Cost Analysis Organization Study (SCANOS)

(U) The SCANOS Study was initiated in response to an AMARC recommendation to consider the combining of the Systems Analysis and Cost Analysis activities within AMC. The study was performed by AMETA in

coordination with this office, and results were presented to the Deputy Commander, AMC during March 1975. Implementation of SCANOS was deferred by the Deputy Commander until Fall 1975 when plans for the Development/Logistics Center concept were to be finalized.

Mobility Equipment Research and Development Center (MERDC) Cost Analysis

(U) MERDC was designated as a Development Center in FY 75. HQ AMC Cost Analysis personnel assisted the MERDC Cost Analysis Office in development of data and procedures for processing cost assessments for requirements documents and in meeting other cost efforts required of a development center.

Cost Study Analysis/Support and Independent Parametric Cost Estimates

(U) During FY 75, the Cost Analysis Division conducted reviews and analyses of costs for major materiel systems and otherwise provided coordination and validation support for DA cost effectiveness studies and special cost studies. Independent Parametric Cost Estimates (IPCE's), Baseline Cost Estimates (BCE's), DA Program Report (DAPR) Presentations and other special studies are summarized below. DOD policies governing the materiel acquisition process that require an Independent Parametric Cost Estimate (IPCE) for each major weapon system undergoing a milestone review by the Defense System Acquisition Review Council (DSARC). The IPCE, prepared within Comptroller, Cost Analysis channels independent of the influence and control of either the contractor(s) or Project Manager concerned, is used to assess the reasonableness of the PMs estimate of the cost resources required to complete the program. IPCE activity during FY 75 included six completed studies and three in-process.

a. The completed areas included:

BUSHMASTER,
CLGP,
DRAGON,
LANCE,
TACFIRE, and
VRFWS.

b. In-Process were:

HELLFIRE,
SAM-D, and
SINGGARS.

Baseline Cost Estimates (BCEs) and BCE Reassessments

(U) Baseline Cost Estimates are normally prepared by the Project Management Offices and reviewed and coordinated by the Cost Analysis Offices at the Major Commodity Commands and HQ, AMC. Initial BCEs form the basis for a cost trail/track throughout the life cycle of a weapon system. Reassessments are made at major decision points and tracked to the initial BCE. The following systems required BCEs or reassessments during FY 75:

Air Traffic Control Tower Facility, AN/TSW-7A;
BUSHMASTER;
CLGP;
Digital Group Multiplexer (DGM);
FAMECE;
Global Positioning System (GPS);
MICV;
Personnel Armor;
REMBASS;
SAM-D;
SINGARS;
TACFIRE;
Tactical Operating System (TOS); and
VRFWS.

Cost and Operational Effectiveness Analyses (COEAs)

(U) During FY 75, "Project Catch Up" was instituted to assure the completion of a large number of COEAs in progress. Considerable coordination with COA, TRADOC, major subordinate commands and the projects concerned was required for the following COEAs:

Air Traffic Control Tower Facility;
AMORES;
ARSV;
BUSHMASTER;
HET;
M60A3 Tank;
M110E2 Howitzer;
MALOR;
SAM-D;
SAW;
SEAS;
SINGARS;
TOW Under Armor;
VRFWS;
XM-1 Tank (for the Concepts Analysis Agency); and
XM-1 Tank (for the Tank Special Study Group).

Department of the Army Program Report (DAPRs) Presentation

(U) DAPRs covering technical performance, schedule and cost information on selected weapon systems are prepared each quarter coinciding with the SAR submission by the Project Managers. In addition to the written DAPR, three weapon system PMs are called upon each month to brief the Under Secretary of the Army and selected DA staff members. The cost information provided for approximately 20 major weapon systems was received, evaluated, and commented on by the Division during FY 75.

Accelerated Tank Program

(U) The Project Manager, Accelerated Tank Production Program, requested that this division provide cost support on a part time basis. Over two man-months of cost analysis assistance were provided during FY 75. A considerable portion of the support involved providing data required by the Senate and House Appropriations Subcommittees on Defense Spending and the Armed Services Committees, and in answering other tank-related Congressional queries.

Advanced Attack Helicopter (AAH)

(U) Both AAH Contractors, Bell Helicopter Company and Hughes Helicopter Company, are required to work within a specified design to cost (DTC) range. In May 1975, an Army team of cost analysts, industrial and aerospace engineers, conducted a DTC Review at Bell and in early August (FY 76), a similar review was made at Hughes. Both Hughes and Bell requested augmentation of their FY 75 funding to counter the adverse effects of inflation and cost growth. New cost estimates were provided. Army assessment of the alternatives resulted in allowing the contractors to slip the program milestones by six months.

Advanced Scout Helicopter (ASH)

(U) During FY 75, the Army developed a number of ASH alternatives to replace the aging OH-58. At the pre-DSARC held on 6 June 1975, the Army selected military adaptation of an off-the-shelf commercial helicopter, such as the L-286 or BO-105, as its preferred alternative. DSARC is scheduled for 11 September 1975 to review the Army's position and other alternatives.

Ammunition Cost Research Project

(U) This DA-directed study focuses on broad based ammunition cost estimating relationships to enable higher level commands to make independent ammunition estimates. Data collection stage is virtually completed and a computer methodology phase has been initiated. The initial CER products will be in the medium caliber area.

Armored Reconnaissance Scout Vehicle (ARSV) Task Force

(U) Considerable work with ARSV task force was required from October 1974 through June 1975 to provide both acquisition and operating cost data on a large number (27) of candidates SCOUT vehicles. In June, a special cost data report on a reduced list of candidates was provided to TRADOC and the Under Secretary of Army for a decision paper recommending elimination of the XM800T series from further consideration in ARSV COEA.

CH-47 Modernization Program

(U) A Special Study Group (SSG) prepared a report for a Concept Formulation Package (CFP) which required Life Cycle Cost Estimates. In addition to the cost estimates to support the CFP, a Baseline Cost Estimate (BCE) was prepared. The SSG recommended for ASARC consideration that the CH-47A, B and C model helicopters be modernized as the preferred way to preserve the medium lift capability in the Army helicopter fleet.

COBRA AH-1Q and AH-1S

(U) The AH-1Q lost performance when the COBRA was outfitted with the TOW missile. The Army initiated an Improved COBRA Agility and Maneuverability (ICAM) Program. ICAM improvements to the engine, transmission, tail rotor gear box and structure resulted in the AH-1S. The first modified aircraft were delivered in May 1975. Procurement of production AH-1Ss is intended during FY 76.

Heavy Lift Helicopter (HLH)

(U) A program to develop one HLH prototype at Boeing Vertol was approved along with the continuation of an Advanced Technology Program. The engine completed the Prototype Preliminary Flight Tests in March 1975 and two of the three engines required for installation in the prototype airframe were delivered in May and June. However, Congress directed that the program be terminated without completion of the prototype.

Tank Special Study Group (TSSG)

(U) In January 1975, the TSSG requested that this office review the cost data initially required to complete the effectiveness analyses needed for a special Cost and Operational Effectiveness Analysis (COEA) for TRADOC on the XM-1 Tank Materiel Need requirements. HQ AMC, with assistance from the ARMCOM and TACOM Cost Analysis Divisions and the M60 and XM-1 Project Managers, developed and provided the required cost data. The TSSG completed its mission in June 1975 with a COEA briefing to HQ TRADOC.

Utility Tactical Transport Aircraft System (UTTAS)

(U) Adverse effects of inflation, redesign and work-around due to unavailability of materials, and a "price to be quoted on delivery" policy by vendors have resulted in FY 75 funding shortages. The contractors, Sikorsky and Boeing-Vertol, elected to continue to maintain scheduled work at their own risk that sufficient funds to repay them could be provided in the FY 76 Army budget. At the end of FY 75, each contractor had completed three prototypes.

Major Activities-Finance and Accounting

Data Element Management/Accounting Reporting (DELMAR)

(U) During FY 75 each disbursing activity was given the requirement to report receipt and expenditure data direct to the US Army Finance and Accounting Center (USAFAC) for the accelerated submission of Army's Consolidated Statements of Transactions and Accountability to Treasury. Implementation of the accelerated DELMAR procedures was accomplished by AMC disbursing activities and accounts offices in sufficient time to permit the submission of the February 1975 accounting data to USAFAC via AUTODIN NLT COB 5 March 1975 (3rd work day). DELMAR requirements have been successfully accomplished by the 35 AMC disbursing activities which have submitted no late reports for the last two months of FY 1975.

Accounting Systems Approval by the Comptroller General

(U) Documentation of the SPEEDEX Accounting System has been submitted to GAO for final approval which is scheduled for September 1975. Documentation for the ALPHA and TEAM-UP Accounting Systems, both Part I

(Systems Design - Accounting) and Part II (Systems Design - ADP), has been submitted and is currently being reviewed by GAO. The GAO Review Guide for AMC Arsenals/Laboratories Accounting Systems will be submitted to GAO as soon as documentation is available to cross-reference to the GAO Review Guide. Submission is scheduled for FY 1976.

Pricing of Grant Aid Transfers and Foreign Military Sales

(U) During FY 75 there was a substantial increase in problems generated by the interpretation of pricing policies and procedures at all levels of the Department of Defense. The Office, Secretary of Defense displayed particular interest in the pricing of ammunition. On 17 June 1975 OSD published DODI 2140.1 "Pricing of Sales of Defense Articles and Defense Services to Foreign Countries and International Organizations". Pricing was expected to be a significant area of Comptroller interest in FY 76 as HQDA, HQ AMC and the MSCs develop implementing policies and procedures.

Standard Accounting System for TECOM Proving Grounds

(U) The AMC charter request to extend the AIF to all of TECOM Proving Grounds as its standard system was approved by DA Staff. By memo, dated 6 May 1975, the request was forwarded by Comptroller of Army to Assistant Secretary of Defense (Comptroller). AMC Comptroller representatives were working closely with OSD Comptroller and TECOM Comptroller representatives in developing and providing backup material. Approval was expected by 2nd Quarter FY 76 for the implementation target date of 1 October 1976 (FY 77).

Reorganization of AMC - USA MERDC and USA Natick Development Center

(U) AMC General Orders No. 34, dated 7 March 1975, reassigned Natick Laboratories and the US Army Mobility Equipment R&D Center from under the command of the Commander, Troop Support Command, to Commander, USAMC. AMC Comptroller was instrumental in the following policy decisions: Effective 1 July 1975; the stock fund sub-home office for the Natick Branch office is Headquarters, AMC, vice, US Army Troop Support Command. However, Natick remains a branch office of the US Army Materiel Command Installations Division, Army Stock Fund. Army Stock Fund financing applicable to the Development Center activities at Natick will be accomplished by direct funding from HQ, AMC, as is the case with other procurement funds. In this connection, Natick performs as an agent for the applicable commodity command. The US Army Mobility Equipment Research and Development Center has not been established as a stock fund branch office. Funding procedures for the Development Center's activities will be similar to Natick's as outlined above.

AIF Inventory Management Study

(U) This study was approved by DA and forwarded to ASD (Comptrollers) for final approval but became bogged down in staffing with OSD staff. The study proposal aimed at eliminating retain stocks of AIF installations. The Comptroller, AMC, became personally involved and meetings

were held with Assistant Secretary of Army (FM) and Deputy Assistant Secretary of Defense (Mgmt Sys). The AMC Comptroller had to present a positive picture of what AMC was going to do and establish confidence with the approving authorities that AMC could do what was proposed. The Comptroller also had to convince the authorities that AMC could manage inventories under the AIF system. The proposal was favorably received and verbal assurance was given that the proposal would be approved. However, it was too late in FY 75 to install the system. The priority systems efforts which were being devoted to this proposal were halted. It now appears that formal approval will be received early in FY 76. Implementation is planned with an effective date of 1 October 1976.

AIF Cash Redistribution Plan

(U) In FY 75, the concepts, methodology, forms, etc., were developed for redistributing cash within the twenty-six AIF activities. The plan was initiated in order to provide more intensive cash management practices. Comptroller personnel were in the process of carrying out the plan when USAAA, in the course of an audit of depot operations, came to a conclusion that better cash management could be worked out for depots. The plan encompassed all AIF activities; viz., depots, arsenals, proving grounds, and independent laboratories. Cash management became increasingly important in view of AIF expansion efforts underway viz, AIF inventory management system and TECOM Standard System. It appeared that little in the way of cash was scheduled for 1 July 1975 (FY 76) implementation. The AIF cash allotment of at least \$75 million was to be subjected to monthly redistribution with the objective of providing each activity with a disbursing capability based upon need and ability to generate cash.

ASF Cash/Receivables

(U) The Army Stock Fund (ASF) cash balance with the US Treasury reached extremely low positions during FY 75. Due to the critical cash problem at AMC, and other Army Stock Funds, efforts were made by DA to find sources from which replenishment could be made. The drain on ASF cash in AMC was contributed to by two principal causes, viz., the DIDS (Defense Integrated Data Systems) Brownout which prevented price increases, and the inability to liquidate FMS receivables inasmuch as such receivables were on the increase. AMC Comptroller personnel worked very closely with DA Comptroller personnel and with the International Logistics Center, New Cumberland, to overcome the problems and minimize the drain of cash. The AMC Division of ASF ended FY 75 with a cash balance of approximately \$41 million which included the \$26 million advance from FMS Trust Account for Saudi Arabia. This was the first time, since inception, that the ASF disbursements exceeded collections. It is expected that revised procedures such as inter-fund billings for FMS and advance concepts will alleviate the critical cash shortage. Nevertheless, emphasis will continue in FY 76 to improve the ASF cash position. The results of the OSD approved/directed 15% price increase to compensate for the DIDS Brownout will not be felt until the 2nd quarter of FY 76.

AIF Reductions (US Army Depot Atlanta and US Army Support Center, Richmond)

(U) Final processing of all documents against Atlanta Army Depot, and the USA Support Center, Richmond, were accomplished and the AIF accounts of these two activities were closed effective 30 May 1975.

Closeout of the US Army Petroleum Center (Accounts Receivable-Vietnam Navy)

(U) The former US Army Petroleum Center records reflect an accounts receivable of \$1.2 million from the US Navy for petroleum products issued in FY 70 to the Vietnam Navy. Under the groundrules at that time, the issues made of these products to the Vietnam Navy should have been charged to Army funds rather than billed to the Navy. Navy recognized and refused to honor the bills. Several meetings were held between Navy and DA Staff officials but no solution was reached. On 17 March 1975, after meeting with Navy representatives, AMC requested DA to grant authority for writing off these receivables as uncollectible. That authority was granted and confirmed in DA's 1st Indorsement of 1 July 1975. This writeoff will be reflected in the 30 June 1975 reports.

Major Activities-Internal Review and Audit Compliance

Internal Review Performance and Projected Actions

(U) An analysis of FY 75 commandwide internal review performance disclosed that balanced coverage of installation functions, procedures, and operations was achieved. A significant percentage of auditor effort was expended in the making of special and unprogramed reviews. This indicates that commanders are using internal review in its preferred role as the Commander's "trouble-shooting" element. Commanders were providing emphasis and support on training necessary for the professional development of auditors and to improve the professional qualifications of the internal review staff.

(U) Although the AMC internal review function was recognized by HQDA as perhaps the best in the Army, there was still a need for improvement. This headquarters plans disseminate guidance intended to increase the percentage of auditor efforts in the mission areas. It was planned to place increased emphasis on the making of follow-up reviews to evaluate the effectiveness of corrective actions taken in response to recommendations made in audit reports issued by external audit agencies or activities.

Timeliness of AMC Responses to External Audit Reports

(U) The audit compliance workload, in terms of GAO, AAA and DOD reports, dropped about 20 percent in the first half of the fiscal year. The reduced workload reflected the impact of constraints imposed on the use of travel funds. External audit agencies, particularly the US Army Audit Agency, established additional residencies to minimize travel and, in the ensuing months of the year workload returned to a more normal level.

(U) In October-November 1974, and again in January 1975, short timeframes for reply brought about a number of late responses. This reduced the overall timeliness record for the year to a point below performance levels for the preceding two years. Reply timeliness records for the past four years are tabulated below:

<u>Fiscal Year</u>	<u>On Time to DA</u>	<u>Late To DA</u>	<u>Total No. of Cases</u>	<u>Percent on Time</u>
1972	208	47	255	82
1973	167	24	191	87
1974	233	25	258	90
1975	173	31	204	85

Quality Improvement for External Audit Positions

(U) An AMC-wide campaign to improve the quality of the AMC external-audit positions was formalized on 2 December 1974 via explicit instructions from the Deputy Commanding General, AMC who viewed past experiences with displeasure indicating that the quality of AMC audit positions had been below that desired and expected. To bring these up to standard, a program was outlined to improve external-audit positions and the Deputy Commander called for installation commanders and deputy commanders to participate actively in preparing audit-positions to assure increased quality.

Major Financial Management Audits - FY 1975

(U) During FY 75, the Army Audit Agency notified AMC headquarters of agency plans for performing two major financial management audits.

(U) First, at the request of the Assistant Secretary of the Army (ASA) for Financial Management (FM), AAA conducted a special audit to determine the effectiveness of financial management, accounting controls, and overall administration of the AMC customer order program. As a first priority, the ASA(FM) wanted AAA to place emphasis on the circumstances leading to the apparent funding deficiency of \$34.2 million in the Other Procurement, Army appropriation, program year 1972. The ASA(FM) advised that OSD and Congressional interest was adding to the sense of urgency for determining the sequence of events and resolving the problem. Audit work was performed at AMC headquarters; all six commodity commands;

the International Logistics Center; and selected depots, arsenals and GOCO plants. The audit was announced within AMC by Notice A-122, dated 24 October 1974, with the Finance & Accounting Division (AMCCP-F) designated AMC action office.

(U) The second major financial audit was conducted as part of the AAA functional audits of AMC commodity commands. The AAA performed audits of PEMA and RDTE unobligated and unpaid fund balances. Audit sites included all six commodity commands. The objectives of the audit were to (a) determine the extent to which the availability of funds is restricted due to delays in deobligating long outstanding inactive or invalid obligations; (b) issue flash reports, when appropriate, enabling commanders to recoup and reprogram funds found to be unnecessarily reserved; and (c) determine whether unliquidated obligations, commitments, uncommitted balances and related reimbursements are managed and controlled in accordance with governing laws and regulations.

(U) By the end of the fiscal year, AAA had released five final reports on the results of the PEMA and RDTE audit and had issued several Tentative Findings and Recommendations developed during the customer order audit.

AAA Army/Command-wide Audits for FY 1976

(U) On 11 September 1974, AMC forwarded audit topics to Headquarters, AAA for consideration in developing the agency's FY 1976 Army/Command-wide audit program as follows: Inordinate Time Consumed in Submitting High Priority Requisitions and Processing Receipts; Timely and Accurate Preparation and Return of Intransit Data Cards (IDC's) by Requisitioners; and Obtaining Readiness Problem Data.

(U) This marked the fourth consecutive year in which AAA requested AMC assistance in developing annual Army/Command-wide audit programs. AMC has made a positive response to each AAA request. Proposed audits were subject to review by the Army Staff Inspection Audit Priority Committee.

Major Activities - Management Division

Energy Conservation Study

(U) An Energy Conservation Evaluation Study was initiated in the 3rd Quarter of FY 75 with an estimated completion date in the 2nd Quarter of FY 76. The study was oriented toward the development of a management model for use by Installation/Activity Commanders/managers to systematically evaluate the efficiency of their overall energy use. The model was envisaged to provide a means for analysis of the energy production--consumption system from the point where source energy is delivered to the installation, through the intervening conversion and

distribution systems to final consumption where energy output is measureable in terms of product or service. The approach was to provide the basis for development of individual installation/activity optimum energy networks as a means to analyze, on a step-by-step basis, actual energy used versus optimum energy requirements, and thereby expose inefficiencies which may be correctable. This should provide a means for reducing energy consumption without the potential danger of adversely affecting mission accomplishment.

Total Resources Efficiency and Effectiveness Study (TREES)

(U) As an aftermath of the Comptroller briefing to the new AMC Commander on 19 February 1975 on Comptroller activities, the Commander directed accomplishment of a study of total AMC resources. This task was assigned to the Management Division, Office of the Comptroller. Mr. R. Bricksin was appointed Study Group Chairman by a tasking letter, 25 February 1975, and a Study Plan with milestones was approved by the DCG on 28 March 1975. The Study Group was composed of representatives from AMCMS, AMCSU, AMCMA, AMXMM, AMCRD, AMCRP and AMCIS. A principal economic concept applied to evaluate the total resources efficiency of an activity was the Cobb-Douglas production function. One major contribution of applying this economic concept was the explicit addressing of the costs and consumption of capital as a basis for measuring and evaluating economic efficiency and managerial effectiveness.

Use of DIMES Data for Development of Workloading/Staffing Standards

(U) An AMC Task Group, headed by the Management Division, was formed to develop the criteria for the establishment of DIMES Workloading/Staffing standards for depots. In addition, to Comptroller personnel, the Task Group was composed of representatives from the Directorates for Supply, Maintenance, Personnel, Training and Force Development and Manpower Survey Office. The Major Items Data Agency (MIDA) and the Logistics Systems Support Agency (LSSA) were working in conjunction with the Task Group. The two principal areas of study were the maintenance and supply missions which MIDA centrally workloads under the AMC Total Army Industrial Fund Depot System. Upon development of DIMES Workloading/Staffing standards criteria by the AMC Task Group, LSSA would develop the program logic for the integration of standards into the Central Workloading System at MIDA and into the System-wide Project for Electronics Equipment at Depots Extended (SPEDEX). The system is scheduled to be operational by the end of FY 76.

Interface of DIMES Standards into the Integrated Financial, Manpower, Budget and Performance Evaluation System

(U) Extensive effort was being made by the Budget Division to develop an Integrated Financial, Manpower, Budget and Performance Evaluation System. This system projects reductions in field level reporting and simplification of budget forecasts and management reviews through the use of DIMES/Work Measurement performance standards and ADP network

computer systems. Our present DIMES performance standards would be applied at each management level as follows: Budget Formulation, Resource Allocation Decisions, Work Planning and Control, and Performance Evaluation. Each field activity would be responsible for the development of detailed performance standards at the work center level and for their maintenance in a current status. Detailed standards, based on earned hours, would be rolled-up to the summary standard level--AMC Code, as established in AR 37-100-XX, The Army Management Structure. The summary standards would be used at HQ for month to month performance evaluation of field activities, for staff actions by program managers and for determining manpower requirements and allocating resources. Summary standards would in turn be rolled-up into program level standards for use by HQ AMC in Resource Allocation Decisions, Work Planning and Control, and Budget Formulation.

Management Engineering Study - Sacramento Army Depot

(U) In order to provide standardized methods and work units, staffing guides, organizational structure and job descriptions throughout Directorates for Management Information Systems at depots, the Management Division was heading the AMC Project Advisory Group (PAG), composed of representatives from Management Information Systems, Personnel, Training and Force Development and Plans and Analysis Directorates. Since Sacramento Army Depot was the pilot in developing the D/MIS Organizational Model, it was selected to conduct the study under the monitorship of the AMC Project Advisory Group. Anniston Army Depot was selected as a secondary depot to review, evaluate, and test data developed by Sacramento Army Depot upon completion of each study phase. Phase I was completed on time; Phase II was scheduled for completion by the end of September 1975. At that time, standard methods, work units and work measurement standards would be distributed to all AMC depots for implementation and data developed at Sacramento and Anniston would be included in a DA staffing guide for depots.

MSC DIMES Standardization Project

(U) HQ AMC instituted a DIMES standardization project throughout the Major Subordinate Commands to provide uniformity of management data for determining manpower and cost. A four-phased plan was developed with the objective of improving productivity through the application of industrial/management engineering concepts, principles and practices. The plan was to improve DIMES utilization by providing managers at all levels with uniform, quantifiable information which relates resource requirements to workload. Major Subordinate Commands were assigned functional areas of responsibility for the development of standard methods and work units constructed for use at successive levels of management and having the capability of "roll-up" to the performance factors shown in AR 37-100-XX. Upon completion, methods studies and work units were being forwarded to other Major Subordinate Commands for comments. Standardized packages were then submitted to HQ AMC

for final approval by functional and staff directorates prior to implementation by all Major Subordinate Commands.

Cost Reduction Program

(U) During FY 75 AMC exceeded its \$171,693,000 goal by \$131,698,000 (192%), a total validated savings of more than \$303 million. All reporting areas exceeded their goal: MSCs attained 196%; Depots 169% and direct reporting activities 256%. For the first time in many years, Area 2, Supply Management, has realized more than the assigned goal, attaining 124% or \$41,382,000.

Idea Interchange

(U) As a prelude to a formal Idea Interchange publication, the AMC News was used as a means to publicize cost saving ideas. Several columns have been printed. A more formal program is planned for FY 76.

Productivity Enhancing Capital Investment Program (PECIP)

(U) The effort by AMC in the area of quick payback capital investment was reinforced in September 1974 by the establishment of an Army-wide PECIP. TROSCOM was designated as the administrator of the funds set aside by HQDA to operate the program. AMC was the largest single user of this funding source during FY 75 (57% of the projects--33% of the money). Additional emphasis upon the program is planned for the coming year and more specific guidance from DOD/DA is expected as the concept is made more formal and universal.

Efficiency Trend Evaluation System

(U) The system to measure and evaluate AMC resource utilization was refined and improved in FY 75. Major changes in the system included updating the base period, expansion to arsenals and proving grounds and development of a more representative computation technique. The system emerged from the development to the on-going stage and was transferred to the R&A Division during the latter part of the fiscal year where it has been part of continuing performance evaluations.

Organization Investment Analysis (OIA)

(U) Organization Investment Analysis was a concept first introduced into AMC by the then Under Secretary of the Army Staudt in fall of 1974. As perceived by Mr. Staudt and developed by HQ AMC, the purpose of OIA was to: evaluate self-determined goals, subordinate managers, and the organization; compare performance versus investment and priorities; and, review personnel resources distribution.

(U) Succinctly stated, OIA measures operational performance. It applies to all AMC activities at various different organizational levels. OIA has been extensively tested within HQ AMC and a number of related approaches have been employed by AMC activities. The refined OIA

package was forwarded to the field by letter, AMCCP-MI, subj: Organization Investment Analysis, dated 2 July 1975. The package consists of two parts and a summary sheet. The two parts, organization performance assessment and investment inventory, respectively, allow the manager to make a comparison with his perception of organizational priorities and make changes which can improve organizational operations.

Major Activities - Review and Analysis

Command Management Review and Analysis (CAMERA) Briefings

(U) The principal activity of the Review and Analysis Division has been to provide the Command Group with in-depth analysis, corporate and indicator reviews of selected organizations (or collective groups of organizations such as AMC Major Subordinate Commands or Depots). Major Weapons/Equipment Systems or Functional Programs. The purpose was to focus attention on or facilitate command decisions on critical situations. The following CAMERA briefings were presented to the Command Group in FY 1975:

<u>MONTH</u> (1974)	<u>CAMERA NO.</u>	<u>TITLE</u>
JUL	1-75	Harry Diamond Laboratories
SEP	2-75	Special Missile Study
SEP	3-75	Overall Performance Indicator Reviews and Analysis (OPIRA)
OCT	4-75	Storage Space Utilization and Occupancy
(1975)		
APR	5-75	Overall Performance Indicator Review and Analysis (OPIRA)
MAY	6-75	Implementation of Revised Guidance on Reliability Availability and Maintainability (RAM)

Improving Review and Analysis AMC-Wide

(U) As part of a continuing effort to improve the accomplishment of review and analysis in AMC Headquarters and the field, the Division Chief participated in two Comptroller Evaluation Surveys at two depots and conducted staff visits to two major subordinate commands. Staff visits to field installations, meetings were held with several new installation commanders and their comptrollers at which time mutual problems were discussed and resolved.

Evolution of Quarterly Reviews

(U) During FY 75, the Comptroller R&A Division continued its program to refine its quarterly OPIRAs. These presentations, which provided the Command Group with an independent overview of key materiel acquisition, logistics support, and personnel management activities, became a more useful tool to management through agreement with HQ AMC Supply Directorate to utilize the same performance indicators and weights for ranking the performance of depots. This resolved the problem of possible inconsistencies between effectiveness rankings as computed by the two Directorates. Work is currently underway to achieve similar comparability for Depot Maintenance and for Commodity Command Supply and Maintenance operations.

Implementation of Revised Guidance on Reliability - Availability - Maintainability (RAM) CAMERA

(U) In the Second Quarter of FY 75, a review was made of compliance by AMC major subordinate commands with a revision in policy guidance on RAM published in April 1974 by HQ AMC. This review was a follow-up effort directed by the CG, AMC following a similar review made during FY 74 and presented to the CG, AMC and the AMC Command Group in February 1974. The results of the FY 75 review were presented to the DCG, AMC and the AMC Command Group in an Implementation of Revised Guidance on RAM CAMERA on 8 May 1975. Specification of RAM requirements was found to be adequate in development solicitations but not adequate in production solicitations. Based on the CAMERA presentations, the DCG directed that the Director of Quality Assurance, HQ AMC prepare instructions to AMC Commodity Commands informing them of the substance of the findings of the 8 May 1975 CAMERA and directing that command emphasis be given to effect full compliance with HQ AMC RAM policy guidance. A letter from LT GEN Vaughan, DCG, AMC was dispatched on 2 June 1975. The Director of Quality Assurance was also directed to publish additional policy guidance covering RAM requirements to be included in solicitations and contracts for components, secondary items, and repair parts. This action was completed with the publication of Change 1, to AMC Supplement 1, to AR 702-3 dated 6 June 1975. As a final action resulting from the CAMERA, the Director of Quality Assurance was directed to make a follow-up review of RAM in solicitations and contracts in November 1975.

Harry Diamond Laboratory (HDL) CAMERA

(U) In July 1974 an independent review and evaluation of HDL was presented to the CG, AMC and the Command Group. This CAMERA addressed the quality of workforce, resource application, and response to Army needs. Included in the presentation were performance indicators recommended such as technical presentations, journal articles, invention disclosures, patents, and technical reports. As a result of the CAMERA the CG, AMC directed HQ AMC staff to (1) Explore the merits extending the HDL Summer Training Program to other AMC Laboratories; (2) Initiate

and maintain a track of funding and personnel, similar to that presented in the CAMERA, at all AMC Laboratories operating under REFLEX; (3) Examine the factors that have lead to unused customer funding at HDL for application to other AMC Laboratories; (4) Explore the underlying reasons for the downturn in contributions to Science and Technology at HDL; and (5) continue to develop indicators of laboratory performance.

DOD Study Group - Development of Inventory Control Point (ICP) Performance Indicators

(U) Analysts were detailed during the Fourth Quarter of FY 75 to the DOD Study Group to Develop Inventory Control Point (ICP) Performance Indicators. The study was continued into FY 76. The study, established at the direction of the Deputy Assistant Secretary of Defense (Supply, Maintenance and Services) was conducted by the Office of the Assistant Director, Plans, Programs and Systems of the Defense Supply Agency. The purpose of the study was to develop selected performance indicators, for the three military services and DSA, comparable measurements of wholesale ICP characteristics, costs and performance. The performance indicators are to be used by top management in furtherance of increased efficiency, economy of operations, and improved support activities.

AMC Installation and Activity Fact Book (AMC P 1-5) and AMC Data Book

(U) The AMC Installation and Activity Fact Book was published in September 1974. Distribution was made to the Command Group, HQ AMC Directors and Office Chiefs, and also to selected field commanders at the AMC Commanders' Conference during the same month. The AMC Data Book was updated, published, and distributed in August 1974. The second semi-annual update of the Data Book was completed in March 1975.


Installations and Services

Mission

(U) The mission of the Directorate for Installations and Services was changed during FY 1975 by the deletion of the responsibility for management of communications-electronics plans, programs, and services. Responsibility for staff supervision of (1) management and utilization of the physical plant of the commands, installations, and activities in the Army Materiel Command (AMC) and (2) logistical support services incident to maintenance and operation of the 144 installations and activities throughout CONUS remained in the directorate.

Organization and Staffing

(U) In February 1975, a revised Table of Distribution and Allowances (TDA) was approved by the Director, Personnel Support Agency, to include the following changes: transfer of the Communications-Electronics


Division, less the Audio-Visual Branch, to the Director of Communications-Electronics; transfer of the Audio-Visual Branch to the Installation Logistical Support Division; utilization of the Family Housing Branch, Real Property Management Division, to establish the Housing Management Division; and establishment of the position of Energy Officer under the Chief, Real Property Management Division. As of 30 June 1975 authorized personnel strength of the directorate was 52 with 44 assigned.

Real Property Management

Conservation Regulation

(U) In April 1975, Department of the Army published AR 11-27, Army Energy Program. AMC Supplement 1 to this regulation, to be published in August 1975, replaces the AMC Energy Conservation Plan dated 11 December 1973. This provides guidance necessary to function effectively within energy constraints applied by higher headquarters. A program for awards for outstanding achievements in energy conservation is included in AMC's Supplement to this regulation.

Conservation Award

(U) The initial AMC awards for Energy Conservation were presented. TROSCOM earned the award in the major subordinate command category and Pueblo Army Depot earned the award in the depot category for the fourth quarter of FY 1974. Mr. Lee V. Bracken received the individual annual award in recognition of his energy conservation program which resulted in savings of over \$500,000 in energy consumption at Tooele Army Depot during FY 1974.


(U) Awards for the first quarter of FY 1975 were presented to AVSCOM, Sharpe Army Depot, and Pueblo Army Depot. For the second quarter, they were presented to ARMCOM and Seneca Army Depot. The categories in which quarterly awards are to be presented were expanded to four to provide all AMC installations an opportunity to compete: depots, ammunition plants, laboratories and proving grounds, and arsenals.

Innovative Energy Projects

(U) Each AMC installation was tasked to develop an innovative energy use project. Projects nominated ranged from a return to mounted security patrols to wind generated electricity for charging storage batteries. Some projects were being implemented with local funds while others were being processed in MCA programs.

Energy Surveys

(U) Beginning in January 1975, the Installations and Services Agency conducted energy conservation visits at a rate of two per month. The surveys were to help installation commanders evaluate their



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energy conservation programs and to determine where additional energy savings may be attained.

Energy Working Group

(U) An AMC Energy Working Group has been established to study energy and energy conservation developments which can be applied to AMC operations. The Group is chaired by the Installations and Services Directorate's Energy Officer includes Comptroller, Information and Research and Development representatives.

Energy Seminar

(U) An energy conservation seminar was conducted at Headquarters, AMC, during June 1975. It was attended by major subordinate command and direct reporting installation energy coordinators to discuss problems and exchange successful ideas. Presentations were made by various agencies on various energy and energy conservation applications.

Energy Reduction

(U) During FY 1974, AMC reduced its energy consumption approximately 19 percent below its FY 1973 consumption against AMC's goal of 20 percent and DOD's goal of 15 percent. During FY 1975, AMC energy consumption was 16 percent below its FY 1974 consumption. AMC's goal was a 10 percent reduction in total energy consumption.

Military Construction

Status at Beginning of FY 1975

(FOUO) At the end of the fiscal year, the FY 1975 Military Construction, Army (MCA) Program for AMC, consisting of 41 projects with an estimated cost of \$58.6 million, was being reviewed by Congress for authorization and funding. Hearings before the Congressional Committees were in process. The AMC FY 1976 MCA Program was undergoing review by DA and contained 98 projects at an estimated cost of \$141.3 million. The program guidance for the FY 1977 MCA Program had been developed in AMC and forwarded to the field.

FY 1975 MCA Program

(FOUO) The AMC segment of the FY 1975 Military Construction, Army (MCA) Program, authorized and funded by Congress in January 1975, contained 55 projects at an estimated cost of \$55,082,000. This included the following:

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<u>CATEGORY</u>	<u>NO. PROJECTS</u>	<u>\$000</u>
Community Support	2	\$983
Pollution Control	6	2,282
Maintenance & Production	6	11,784
Research & Development	3	13,399
Supply	1	1,859
Administrative	3	5,607
Utilities	2	520
Water Monitoring Surveillance	9	1,460
Operation	2	5,756
Medical	2	11,137
Dining Facilities Modernization	1	301
TOTAL	37	\$55,082

Congress denied four projects:

<u>INSTALLATION</u>	<u>DESCRIPTION</u>	<u>\$000</u>
AMMRC	Boiler House Modernization	\$558
Cornhusker AAP	Industrial Waste Treatment	350
Red River AD	Alter & Add Depot Operations Bldg	891
WSMR	Range Power	1,766

FY 1976 MCA Program

(FOUO) Department of the Army funding guidance to AMC was \$90 million⁵⁹ plus an overprogramming limit of 125 percent which increased the dollar guidance to \$112 million for FY 1975. AMC submitted 80 projects with an estimated cost of \$102.9 million.⁶⁰ The Department

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Ltr, DAAG-PAP-A(M)(10 Sep 73), DALO-INC-D, dated 26 Sep 73, subj: FY 1976 Military Construction, Army (MCA) Program Guidance.

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Ltr, AMCIS-MD, 15 Feb 74, subj: FY 1976-1980 Military Construction, Army Program.

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of the Army and the Department of Defense approved and submitted to Congress 76 projects totaling \$95.6 million. Congressional Committee review was underway but no reports had been published. Significant projects in the program included:

<u>INSTALLATION</u>	<u>DESCRIPTION</u>	<u>\$000</u>
Aberdeen PG	Research Animal Isolation Facility	9,193
Corpus Christi AD	Supply Operations Bldg - DEF FY 74	1,069
Holston AAP	Methyl Nitrate Control - APC	1,162
Holston AAP	Plant Waste Treatment - WPC-DEF FY 72	1,650
Holston AAP	Fume Abatement - APC-DEF FY 72	1,383
Joliet AAP	Red Water Ash Handling & Storage - WPC	3,825
Lexington-BG AD	Insulate Heated Buildings - ECIP	1,514
Milan AAP	Pink Water Industrial Treatment - WPC	2,611
Fort Monmouth	Process Refuse, Boiler Plant	1,798
Picatinny Arsl	Condensate Recovery - ECIP	1,867
Pine Bluff Arsl	White Phosphorus Filtration Plant-WPC	1,950
	DEF-FY 72	
Pine Bluff Arsl	Industrial Waste Treatment Plant-WPC	2,616
	DEF-FY 72	
Pine Bluff Arsl	Incinerator-APC-DEF FY 72	4,435
Pueblo AD	Energy Reduction, Insulate Bldgs-ECIP	2,400
Radford AAP	Nitrate Removal Facility - WPC	13,543
Radford AAP	Waste Acid Neutralization - WPC	1,785
Red River AD	Industrial Waste Treatment, Ph II-WPC	2,817
Redstone Arsl	Environmental Missile Test Facility	1,089
Redstone Arsl	Dental Clinic	1,036
Rock Island Arsl	Alterations, Boiler Plant-APC-DEF-FY 72	1,635
Savanna AD	Ammunition Demilitarization System-APC	3,132

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<u>INSTALLATION</u>	<u>DESCRIPTION</u>	<u>\$000</u>
Seneca AD	Security Measures, Weapons Storage	1,127
Sierra AD	Security Measures, Weapons Storage	1,525
Sierra AD	EM Barracks, w/o Mess (96 men)	1,033
Volunteer AAP	Red Water Treatment Facility-WPC	2,065
Watervliet Arsl	Water Pollution Control-WPC-DEF-FY 73	1,722
White Sands MR	Mobile Optical Equipment Sites	2,266
White Sands MR	Land Acquisition, Ph I-DEF-FY 74	2,100

FY 1977 MCA Program

(FOUO) Based on Department of the Army funding guidance,⁶¹ the Intermediate-Range MCA Program was developed and submitted. Within the 206.8 million proposed for FY 1977, the following was submitted to DA for approval:

<u>CATEGORY</u>	<u>NO. PROJECTS</u>	<u>\$000</u>
Operational & Training	7	9,952
Maintenance & Production	14	33,408
Research, Development & Test	11	21,495
Supply	1	546
Hospital & Medical	1	1,590
Administrative	4	16,149
Housing & Community	19	24,985
Energy Conservation Investment	33	22,541
Pollution Control	19	59,817
Utilities & Ground Improv	10	16,314
TOTAL	119	\$206,797

⁶¹

Ltr, AMCIS-MD, 5 Nov 74, subj: FY 1977-1981 Military Construction, Army Program.

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FY 1978 MCA Program

(FOUO) As in the previous fiscal year, to preclude unnecessary expenditure of funds and effort on a multitude of projects that could not be considered within the proposed DA Funding guidance, the AMC Military Construction Working Group prepared a staff developed Intermediate-Range FY 1978-1982 MCA Program⁶² from data submitted for the FY 1977-1981 MCA Program. Variance from the proposed program, however, is permitted, but only upon prior approval at the AMC proponent of the Military Construction Working Group.

Minor MCA Projects FY 1975

(FOUO) Urgent minor construction projects and self-amortizing minor construction projects (\$50,000-\$300,000) funded for construction for AMC installations or activities amounted to \$2,919,908. Eleven projects were funded for construction. Thirty-one projects were received during the Fiscal Year.

PBS Project Activity During FY 1974

(FOUO) By the end of Fiscal Year 75, \$76.9 million or 71 percent of the FY 75 Production Base Support Construction Projects were awarded. For the prior year construction programs (FY 71-74), \$239.5 million or 98 percent were awarded. All construction projects prior to FY 71 are awarded.

Design and Construction Surveillance, FY 75

(FOUO) General. Construction surveillance activities within the Installations and Services Agency during the past year continue at a high level, requiring priorities to be established as workload exceeded the ability to complete the required actions. Contributing to the high level of activity are the intensified management techniques being applied by the AMC Project Manager for Modernization and Expansion and the Huntsville Division, Corps of Engineers. These techniques require an additional review of design (90 percent) and conferences with the designer at both concept and 90 percent design stage. The Installations and Services Agency substantiated and forwarded to AMCPT-SA a request for five additional engineers to eliminate backlog and provide the expertise and assistance expected by the Project Manager and Huntsville.

(FOUO) Revised procedures imposed upon the PBS Program by the House Appropriation Committee require the current backlog of criteria and concept design to be eliminated and all future submissions to be processed without delay. The additional emphasis on air/water pollution,

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Ltr, AMCIS-MD, 15 Jul 75, subj: FY 1978-1982 Military Construction, Army (MCA) Program.

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OSHA, energy conservation and other specialized requirements coupled with the decreasing engineering capability at the AMC installation level make it imperative for the Installations and Services Agency to participate in advance planning, preparation of scope of work, and overall project development.

Summary of Activities

(FOUO) Design criteria for 407 MCA and PBS funded projects estimated to cost \$825,105,000 were reviewed. Sixty-four projects estimated to cost \$150,460,000 were on hand. Concept design for 131 MCA and PBS funded projects estimated to cost \$294,661,000 were reviewed. Twelve projects estimated to cost \$30,900,000 were on hand. One hundred seventy-four (174) man-visits were made in FY 75.

Major Problems and Actions Taken:

(FOUO) Office and on-site review of projects in FY 1975 resulted in an estimated cost avoidance of \$13,670,147. Office and on-site review of projects in FY 75 resulted in recommendations and action pending with potential cost avoidance of \$7,444,200.

Production Base Support Program

(FOUO) During FY 1975, quarterly Production Base Support meetings were held at various installations to keep abreast of significant actions, although the shortage of travel funds limited the meetings to three. Representatives of the Office of the Chief of Engineers, the Office of the Deputy Chief of Staff for Research, Development and Acquisition, US Army Materiel Command and its Major Subordinate Command Headquarters, and the Project Manager for Munition Production Base Modernization attended the meetings.

(FOUO) Facility Working Group meetings, first held during FY 1973 but reaching full implementation during FY 1974, have been beneficial in improving local-level coordination between the Ammunition Plants and the Engineer Districts. Again, the shortage of travel funds has restricted the frequency of these meetings.

(FOUO) During FY 1975, Production Base Support construction projects received greater attention from The Congress. The House Appropriations Committee has expressed a desire to have all final designs completed by the time the Army's Appropriation Request is submitted to Congress, effective with the FY 1977 program.

(FOUO) At the present time, procurement-funded construction is approved by the Appropriations Committees only, whereas MCA construction must be authorized by the Armed Services Committees. The House Armed Services has expressed an interest in reviewing procurement-funded appropriation. The issue had not been resolved as of the end of 1975, but it appears likely that the Armed Services Committees would

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get to authorize procurement-funded construction. However, it will remain a separate appropriation, i.e., not a part of the MCA program.

Facilities Engineering

Management Improvement - Cost Reduction Program for Real Property Management

(FOUO) The objective of the Cost Reduction Program was to improve management and operating practices at all levels of the DOD and to stimulate the initiation of positive management improvement actions which would assure the achievement of military capability at the most economic cost.⁶³ In implementing these actions, the Installations and Services Directorate had the responsibility for complete monitorship of the program in the areas of AMC Real Property Management, which included the establishment of specific quantitative goals and reporting performance against these goals on a regular basis. During FY 1975, savings in excess of \$14 million were realized against a goal of \$1 million.

Fire Prevention Contest

(FOUO) Army installations annually participate in the military division portion of the National Fire Protection Association fire prevention contest. Fifteen AMC installations competed in the calendar year 1974 contest. The following AMC installations received Certificates of Merit awards:

3rd Place	Rocky Mountain Arsenal
9th Place	Rock Island Arsenal
10th Place	Red River Army Depot
11th Place	Pine Bluff Arsenal
15th Place	Sharpe Army Depot
19th Place	Letterkenny Army Depot

Maintenance and Management of Real Property Facilities Program

(FOUO) A FY 1974 Command Objective was to reduce the Backlog of Maintenance and Repair (BMAR) through phased actions as follows:

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AR 5-4, Department of the Army Management Improvement Program, September 1973.

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evaluate BMAR to exclude any projects not required;

attain an AMC-wide target ratio of seven percent between costs for minor construction (.L0000) and maintenance of real property (.K0000); and

assure that available year-end funds are applied to maintenance and repair work.

(FOUO) A listing of unfinanced high-priority facilities projects was forwarded to the AMC Comptroller for year-end funding consideration. Program target of 10 percent reduction in BMAR was achieved.

Air and Water Pollution Abatement Program (MCA)

(FOUO) The revised MCA Air and Water Pollution Abatement Program for Fixed Facilities at close of FY 1975 was:

FY 1966-1971	Authorized and Funded	Air	(7 Projects)	\$6,627,000
		Water	(35 Projects)	16,404,000
FY 1972	Authorized and Funded	Air	(27 Projects)	22,388,000
		Water	(26 Projects)	30,185,000
FY 1973	Authorized and Funded	Air	(16 Projects)	28,184,000
		Water	(26 Projects)	23,924,000
FY 1974	Authorized and Funded	Air	(6 Projects)	4,074,000
		Water	(2 Projects)	5,445,000
FY 1975	Authorized and Funded	Air	(1 Project)	500,000
		Water	(5 Projects)	2,342,000
FY 1976	Submitted to Congress	Air	(4 Projects)	2,091,000
		Water	(22 Projects)	29,703,000
FY 1977	Proposed by AMC	Air	(4 Projects)	3,275,000
		Water	(13 Projects)	55,582,000
Total Air Pollution Projects (65)				67,139,000
Total Water Pollution Projects (129)				163,585,000
Grand Total of Air and Water Pollution Projects (194)				230,734,000

[REDACTED]

(FOUO) AMC participation in the environmental monitoring program at Army installations is as follows: FY 1973 participation at \$2,870,000 for fifteen air monitoring stations submitted as 1 project, and \$1,130,000 for four water monitoring stations submitted as 1 project in totals above. FY 1974 participation at \$1,073,000 for seven air monitoring stations submitted as 1 project, and \$3,216,000 for fourteen water monitoring stations submitted as 1 project in totals above. FY 1975 participation is \$1,460,000 for water monitoring only. Semi-annual reviews of AMC pollution control program for fixed facilities were accomplished under AR 200-1.

Energy Conservation Investment Program (ECIP)

(FOUO) On 15 August 1974, the Energy Conservation Investment Program (ECIP) was established by DA and implemented in AMC on 16 August 1974.⁶⁴ ECIP is funded through the MCA program.

(U) Projects qualify for ECIP by meeting the following criteria: The project must conserve energy with the type and amount of energy being stated on DD Form 1391; the project must contain no major new construction; and project must amortize within specified periods stated on DD Form 1391. The AMC ECIP is as follows:

FY 1976	Before Congress	10 Projects	\$9,010,000
FY 1977	To DA	35 Projects	23,909,000
FY 1978	(Estimate)	27 Projects	23,836,000

Real Estate

Real Estate Surveys

(U) Many of the Real Estate actions in Fiscal Year 1975 were the result of the issuance of Executive Order 11724, "Providing for the Identification of Unneeded Federal Real Property," formerly known as Executive Order 11508. This order requires that a continuing and critical review be made of all Federal Property to insure that each real estate property holding is promptly released when it is no longer required to support the mission.

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AMCIS-MD message 162022Z AUG 73, subj: Energy Conservation Investment Program, FY 76 MCA Program.

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(U) Four types of real estate surveys have been conducted as a result of the order: an annual survey by the commanding officer of each installation; "In-house" surveys conducted by personnel of Headquarters, AMC; studies by Office, Secretary of Defense teams made up of representatives of the three services; and studies performed by General Services Administration (GSA) personnel.

Excessed Real Estate

(U) As a result of these various studies, 4,473,294 acres of land have been surveyed, and approximately 100,000 acres have been declared excess by AMC. Disposals vary in size from 1 acre at Rock Island Arsenal, Illinois to 60,000 acres at Sierra Army Depot (Honey Lake), California. In consonance with the Legacy of Parks Program, GSA has given high priority to assigning lands to the Bureau of Outdoor Recreation which in turn makes them available to local agencies for park and recreation use.

(U) The following major actions pertaining to AMC installations were undertaken during this reporting period:

Burlington Army Ammunition Plant, New Jersey, which was declared excess to the Department of the Army in 1974 was approved for disposal by Congress on 17 December 1974.⁶⁵ General Services Administration will make final disposition of the plant.

Lexington-Blue Grass Army Depot, Kentucky, Department of the Army is in the process of excessing approximately 149 acres of land at this installation.⁶⁶ Winchester-Clark County has requested the property for airport use.

Sierra Army Depot, California, approximately 60,523 acres of the Honey Lake area of Sierra Army Depot have been declared excess to the needs of this command.⁶⁷ Congressional approval for the disposal will be necessary. The State, which owned the Lake prior to World War II, has expressed an interest in reacquiring the property for a wild-life preserve.

US Army Materiel Command requested the Office, Chief of Engineers, to transfer approximately 7,100 acres of land at Bay St. Louis now under the jurisdiction of NASA to Department of the Army.⁶⁸ The land will be used for establishment of a facility to manufacture Improved Conventional Munitions.

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Dept of Army, Disposal Report No. 524, 30 August 1974.

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AMCIS-MR 1st Indorsement, 11 Feb 75, subj: Report of Excess Real Property.

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AMCIS-MR 1st Indorsement, 28 Mar 75, subj: Disposal of Real Estate

68

AMCIS-MR 1st Indorsement, 18 Jun 75, subj: Acquisition of Real Estate for Mississippi Army Ammunition Plant.

Historical Preservation

(U) As a result of Bicentennial interest, great emphasis was placed on Executive Order 11593, "Protection and Enhancement of the Cultural Environment," which stated that the Federal Government would provide leadership in preserving, restoring and maintaining the historic and cultural environment of the nation.

(U) Implementation of the order contained a requirement for this Command to make an inventory of its historical sites, objects, buildings, structures, etc., to determine if any of them should be processed for nomination on the National Register of Historic Places. The tentative list submitted by AMC included 59 possible historical items. The list contained such diverse subjects as ruins of a ghost mining town, bridges, clock towers, living quarters, Indian archaeological sites, portions of the Mormon Trail, Meeting Houses, arsenal manufacturing facilities, etc.

(U) Twenty-four historical buildings out of the 59 items are located at three installations, namely Rock Island, Watervliet and Frankford Arsenals. These three arsenals now appear in their entirety in the National Historic Register. The Department of Interior has given special recognition to the 24 buildings at these installations. One of the goals of the Executive Order is continued use of historical facilities, where possible, and particularly utilization for their original intended purposes. For instance, twenty some buildings at the arsenals built in the early 1800's (1812-1840) are still used as family quarters or for manufacturing purposes.

(U) At the present time, AMC has eight installations listed in the National Register with a total of 31 buildings or sites being given recognition. Twenty-two additional AMC nominations are presently under review either by the installations, DA, States or Park Service.

Housing Management Division

Reorganization and Staffing

(U) During FY 75, all housing management functions at headquarters and installations were centralized under a single manager at each level in accordance with instructions contained in AMCR 210-4. As part of the reorganization effort, a manpower survey was conducted to determine staffing required at all headquarters and installations to support the aims of centralized housing management. As a result of this study, 22 military spaces were eliminated from housing management functions and 63 civilian spaces were added. This resulted in a net increase of 41 spaces. The added spaces were primarily required to support bachelor and family furnishings management functions. The housing management

element of HQ, AMC, was increased by two spaces to provide a broader base for command supervision of the overall housing management program.

Program Review

(U) To insure that the objectives of the housing management program are being accomplished at installation level, inspection teams, composed of representatives from HQ, AMC, planned to review housing management functions at all installations during the period May 1975 - June 1976.



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CHAPTER III

RESEARCH, DEVELOPMENT AND ENGINEERING

Introduction

(U) During FY 1975, the AMC materiel research, development, and engineering programs were staff supervised and directed through the AMC Headquarters, Directorate of Research, Development and Engineering. The directorate included the following commodity and functional divisions: Air Systems, Armament, Battlefield Command and Control, Engineering, Foreign Science and Technology, Missiles Systems, Plans and Programs, Research, Test and Evaluation, and Troop Support. The directorate also housed the office of the AMC Chief Mathematician and the AMC Space Program. This chapter follows the general pattern as arranged above according to division under the topical headings entitled: The Environment, RDTE Objectives; Problems and Accomplishments; Resources; AMC RDTE Program; Joint Activities; Assistance to Civil Agencies; and International Cooperative Programs.

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The Environment

Military Considerations

(U) International. Today we find ourselves in an uncertain world. The takeover of RVN, Cambodia and Laos, by communist forces and the total withdrawal of all US forces from these countries most likely will result in a continuing decrease in the R&D efforts related to SEA. The effect of the possible rise of a communist government in Portugal, the impasse in the Middle East and the potential for a renewed energy crisis will undoubtedly have some effect on the R&D efforts.

(U) Domestic. Numerous factors such as continuing austerity which forces a constant reassessment of priorities, the realization and implementation of the "Volunteer Army," the potential whiplash of Watergate and Vietnam and other things will have some effect, even if subtly, on the total R&D environment.

(U) Economic Considerations. The dollar and manpower level continued to drop in FY 1975 while science and technology continued to move rapidly ahead along all fronts. Research facilities and instrumentation continued to become increasingly more sophisticated and costly. This serious paradox led to constant reassessment of priorities and a sense of frustration and instability by management. Hence, although more funding was received in FY 1975 for research and exploratory activities, the effects of inflation continued to erode the actual dollar resources available. The overall outlook was for continued reduction in both dollars and personnel resources in the future. These reductions would necessitate ongoing realignments to conserve resources. The necessity for efficiency in the use of scarce and valuable military personnel and defense dollars would mark the R&D environment for many years it was contemplated.

(U) Political. Although no major impact was expected, the Civil Disturbance Control (AMCRD program objective No. 10) R&D program implies a potential threat.

Foreign Science and Technology

(C) The military, economic, political and social conditions impacting upon foreign scientific and technical intelligence are the same as those conditions impacting upon all other aspects of AMC requirements. As in FY 1974, equipment obtained as a result of the YOM KIPPUR War in the Middle East in 1973 has continued to provide state-of-the-art, vulnerability and threat data of substantial value to the research and development community. The holdings of the intelligence community have been significantly increased as a result of receiving this equipment which has provided more advanced and accurate intelligence analysis which has been made available to users throughout the Department of Defense. The trend toward Defense Intelligence Agency orientation of scientific and technical intelligence efforts to Warsaw Pact countries and The

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Peoples Republic of China to the exclusion of the Free World noted in FY 1974 has continued in FY 1975. Cuts in resources added emphasis to this orientation. This approach was considered narrow since a possibility continues for United States involvement in limited wars entailing the probability of facing Free World weapons and because the reliance upon intelligence increases with the decline of research and development resources.

The Nuclear Environment

(C) There has been a major resurgence of interest in tactical nuclear warfare by the Department of Defense. The rationale behind this renewed interest is the belief that the longer the "Detente" between the United States and the Union of Soviet Socialist Republic lasts, the less likely a full scale nuclear war becomes, and the more likely either the Union at Soviet Socialist Republics or a third power might be tempted to risk a tactical nuclear exchange to achieve an objective. Because of this feeling, improvement of tactical nuclear weapons and decreasing the vulnerability of US Army materiel to nuclear strikes has increased interest and emphasis.

(C) Of significant impact to the nuclear program in FY 1975, was the reinitiation of development for a new 8 Inch Artillery Fired Atomic Projectile designated as the XM753, and the decision of the Secretary of Defense to terminate research and development efforts on Atomic Demolition Munitions in favor of increased emphasis and exploitation of Earth Penetrator Warheads.

Chemical and Biological

(U) The chemical binary agent system continued to be an area of high political interest during FY 1975. However, a request for open air testing of binary chemical agents was rejected and the use of beagles in toxicity testing of lethal chemical agents aroused public indignation. Late in FY 1975 there has been increased emphasis by the Department of Defense on Chemical and Biological defense. Additional funding for FY 1976 has been programmed to further intensify this effort.

Missile Systems

(U) Rapid advances in technology have placed demands on the research and development community for integrating promising concepts into usable Army hardware. The technology base areas of emphasis for FY 1975 continued the FY 1974 major thrust in Free Flight Rocketry, Terminal Homing and Command and Guidance. These technology thrusts will significantly improve the Army readiness and combat capability in consonance with AMC goals and objectives for FY 1975.

Battlefield Command and Control

(U) The economic environment in FY 1975 was one of austerity. Reductions in funding levels across the spectrum of communications,

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electronic warfare, and surveillance, target acquisition and night observation systems were incurred due to Presidential and Congressional reductions and/or imposed funding ceilings, and withdrawal of funds for establishment of the Army's 16th Division. The trend continued to be "do more with less."

Air Systems

(U) The general environment continued to emphasize peacetime methods of conducting R&D, with particular stress placed on firm requirements followed by an orderly methodical cycle of development. Austerity coupled with inflation characterized the funding of programs and led to an increased stress on cost effectiveness in all areas.

Test and Evaluation

(U) FY 1975 was another year of change and austere funding. Congress cut some \$6,000,000 from FY 1975 funds for Program Element 6.57.11 Major R&D T&E Facilities and \$750,000 from PE 6.5.7.10 Joint CB Contact Point. Also, DA imposed a decrement of about \$10 M from TECOM projects. This reduction with the congressional cut was an overall reduction of 11% in funds.

RDTE Objectives, Problems and Accomplishments

Research

(U) Extreme budget pressure continued to be endured by Army programs. In the interest of planning R&D efforts around a carefully planned and consistent framework to assure strong unity of direction, the ASA(R&D) formulated a peacetime R&D strategy. This required priority devotion to preservation of the technological base; dependency upon product improvement to maintain adequate force structure; limitation of the number of all-new system developments; concentration of funds on demonstrating promising components and systems in hardware form; seek alternate means of circumventing and negating USSR strengths rather than matching them on an item-for-item basis; avoidance of sophisticated applications of technology; and reliance upon the technology of our allies through joint procurement rather than joint development.

(U) During FY 1975, at least three major steps were taken in the research area to implement and meet the objectives of the newly announced strategy. The first of these was to attain from TRADOC agreement on requirement goals of the AMC R&D plans. This was accomplished by establishing procedures whereby AMC R&D plans were reviewed by TRADOC to assure that they had the benefit of user thinking. The second objective was to establish clearly identifiable interfaces between each AMC laboratory and the appropriate TRADOC organizations. This was accomplished by scheduling a series of co-reviews at the laboratory level. A third objective was for each laboratory to initiate a minimum of one innovative technology program per year. The laboratories submitted these as part of their planned

FY 1976 RDTE program.

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(U) In the latter part of FY 1973, an AMCRD objective for R&D efforts on cost reduction was initiated in the AMC RDE Directorate in response to a directed action from the AMC Command Group. This has continued to require an increased awareness and emphasis on AMC research, exploratory and advanced development efforts to help achieve the goal of lower materiel acquisition costs. This objective was being emphasized in division activities. Efforts on cost reduction initiated in FY 1974 continued with emphasis on the "design-to-cost" policy that would make cost equal in priority to performance.

(U) Major problems in priority action of RDTE efforts were resolved further in FY 1975. Thus, in addition to the "Big Five" programs carried over from FY 1974, the ASA (R&D) identified limited areas in the technology base that possess unusually high potential pay-off. These areas are referred to as the "Little Five," and received management attention, priority funding and protection from decrements. The AMC major thrust program also was extended and expanded, addressing gaps in technology, increases in capability, and striving for cost decreases and exploitation of technological breakthroughs.

(U) Major problems with the impact of inflation upon RDTE costs forced the Army to reexamine its out year (FY 1977-FY 1981) program more carefully during FY 1975. In consonance with peacetime strategies for R&D, Basic Research was slated for structuring to increase at the rate of 10% per year, and Exploratory Development at 5% per year in constant dollars through FY 1978. The increases were planned for accomplishment without increases in RDTE performed by in-house organizations. Major R&D programs were defined as those in excess of \$50 million over the life of the development, and included the Big Five and 3 of the Little Five programs.

(U) The Civil Disturbance Control R&D objective initiated in FY 1974 was terminated in early FY 1975 with the successful completion of the STING-RAY, less-lethal kinetic energy projectile and launcher in Exploratory Development. This was transferred to Engineering Development in the Armament Division of the Directorate.

Plans and Programs

(U) Goals. The AMC Research, Development and Engineering Directorate formulated some nineteen (19) major goals and objectives for emphasis during FY 1975. The goals and objectives related to: improved weapons systems, meeting technical milestones, assuring scheduled deliveries, facilitating testing, increasing competitive prototyping, improving funding techniques, assuring innovative technology, validating requirements, establishing and maintaining work improving interfaces, utilizing value engineering techniques and more. Progress reports were rendered monthly to the AMC Comptroller who incorporated the data into

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Command Management Review and Analysis reports which were given quarterly to the Commander, AMC.

(U) AMARC (Army Materiel Acquisition Review Committee). The Army Materiel Acquisition Review Committee (AMARC) was formed to examine and make recommendations regarding the materiel acquisition process of the Army. The AMC Director of Research, Development, and Engineering was assigned and took action on some fourteen (14) AMARC recommendations during FY 1975.¹ Many of the recommendations were implemented or were being implemented by changes to procedures or Army Regulations, and some were found to have already been implemented. One was found not to be cost effective and was not implemented. Those implemented had relevance for improving the materiel acquisition process in the research, development, and engineering area.

Foreign Science and Technology

(U) The objective of scientific and technical intelligence was support of the Army and the Department of Defense through the receipt, maintenance, testing, and evaluating foreign ground forces materiel and to consider threat aspects and technological advantages of foreign developments in the RDTE materiel life cycle. One major problem in this area during FY 1975 involved staffing which was determined to be inadequate to meet mission requirements. Certain mission areas of intelligence could only be given partial coverage while some others received less than adequate coverage².

Armament Systems

(U) Nuclear. The major program objectives were: to provide a base of information on nuclear weapons effects which could be used as design criteria to assure materiel hardness of AMC developed items; to develop field usable nuclear munitions which would meet stated Army requirements in the most cost-effective manner; and to develop Radiac equipment which would provide the Army the capability to detect a nuclear environment which might incapacitate personnel or render equipment inoperative. Also, in response to increased interest in the tactical

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For a compilation of the recommendations and the actions taken to implement them, see: Annual Report of Major Activities, Directorate of Research, Development, and Engineering, HQs, AMC for FY 1975 in file at AMCHO.

2

For an analysis of staffing problems and major accomplishments of foreign science and technology coverage, see: Annual Report of Major Activities, Directorate of Research, Development, and Engineering, HQs, AMC, FY 1975 (SECRET portion) in files of AMC Historical Office.

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nuclear vulnerability problem, a new project entitled Integrated Vulnerability Assessment (IVA) was started.

(C) The Tandem Van De Gratt accelerator was transferred to the University of Pennsylvania.

(U) Chemical-Biological. The RDTE objectives were to develop improved CB protection (masks, alarms, decontamination, medical therapy), improved chemical agent deterrence through continuing lethal chemical agent investigation, and chemical combat support materiel (smoke, flame, incendiary, chemical training agents, and riot control systems).

(U) Weapons/Mine Warfare. The RDTE program objectives were to develop improved weapon systems and ammunition for the Field Army. Program and funding at the start of FY 1975 was deferred in some projects by higher authority and released later. The delay created problems in the program schedule.

(U) Countermine and Barrier Programs. The objectives of the Countermine Program are to explore and reveal new possibilities and principles in detection and neutralization technology. The long range goal is the development of a Countermine System for the detection and neutralization of explosive materials irrespective of case materiel, shape, fuzing, emplacement means or location. The objectives of the barrier program are to identify, plan, and execute theoretical and experimental research and development toward the establishment of effective methodology and equipment that provides the Army with a barrier capability and to provide quantity procurement engineering support, and to derive techniques in the fields of barrier countermeasures, combat fortifications and covers, obstacles, and demolitions.

(U) The goal in neutralization is to provide the Army the flexibility to respond to a specific threat with a specific countermeasure, either vehicular-mounted or man-portable devices, that are compact, lightweight, rugged, reliable, maneuverable, and easily maintainable and which will clear a safe lane through a mined area.

(U) The technical barriers in the mine neutralization area are complicated by the lack of a technical data base, the incomplete definition of the threat elements, and the logistic burden of area clearance. Energy and materiel expenditure caused by the attenuation rate of the selected prospective systems through soils and mine case materials affect the cost and operational effectiveness of the system.

(U) The major technical barriers to achieving the long range goal of detection of the explosive itself are achieving specificity and sensitivity to detect a variety of explosive chemicals in a real world environment.

(U) The major technical barrier to development of interim devices is the achievement of a low false alarm rate, rapid sweep, and reliable detection against a broad range of targets.

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(U) In the non-mine barrier area, emphasis is on achieving a controllable barrier system that will not only reduce the present high logistic burden and emplacement time, but would permit passage of friendly troops for counterattack and be responsive to many different types and magnitudes of enemy threats. The objective of such a barrier is to increase the vulnerability of the target to weapons fire. Such a barrier should be able to produce the effects of detection, delay, increased target exposure, and immobilization. Such barriers are not meant to compete with weapons, but to increase weapon effectiveness while reducing the total defensive cost.

(U) Major problems involved securing requirements documents, the lack of which caused delays in several programs.

(U) Major accomplishments included the following: isolated a TNT transforming enzyme for use as the basis for a biochemical explosive detector; developed a non-linear range equation for Metal Reradiation System (METRRA); designed and fabricated prototype model of the vehicular-mounted road mine detector; extended range and improved delivery accuracy of Surface Launched Unit, Fuel Air Explosive (SLUFAE) rounds; conducted DT/OT II on Track Width Mine Plow; demonstrated a simple technique for actuating magnetic fuzed mines; and the initial phase of the barrier system study was completed.

(U) Missile Systems. In FY 1975, the outstanding problem area was budgetary for Missile Systems. Congressional ceilings and limited funding caused essential development efforts in many areas to be dropped, priorities reoriented, and risks taken in the development of hardware for Army needs. Single Program Element Funding (SPEF) included all of the missile 6.2 development effort under 14 specific technology areas: Sensors, Terminal Guidance, Guidance and Control, Aerodynamics, Propulsion, Ground Support Equipment, Structures, Lasers, Hybrid Microelectronics, Nuclear Effects on Weapons, Experimental Systems, Simulation Research, Systems Concepts, and 6.1 Research on Missiles.

(U) Missile systems accomplishments in FY 1975 emphasized the application of management by objectives. A closer tie of the technology base to missile systems needs was an accomplished goal. Application of the technologies to current on-going programs are as follows: STINGER Alternate is a program aimed at developing a beamrider air defense missile as an alternative to the STINGER air defense missile; the passive optical seeker technique or POST is being examined for application of this technique to existing air defense systems; DOME radar is a program to develop hemispheric coverage antenna which will provide 360° coverage with a single phased array radar for air defense; ATAADS is a multi-purpose antitank and air defense weapons system. Little is being done on this ARPA sponsored concept at present; the free flight rocket program is a technology effort to investigate methods to improve the accuracy of free flight rockets; the General Support Rocket System (GSRS) is a program to develop a low cost counter battery/system for rapid delivery of mass firepower in surge condition; terminally guided submissiles (TGSM) is a development program for a weapon system that would have the capability to attack and terminally home on mobile targets; Distance Measuring Equipment (DME) program involves development of equipment capable of performing missile guidance, target acquisition, self-survey and navigation; Long Range Guided Missile (LRGM)

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is being developed as a lower cost, more accurate candidate for Non-Nuclear LANCE role. This guided missile would use a solid propellant motor and a precision guidance system; Low-Signature Urban Systems Technology (LUST) is a concept to examine low signature type weapons for use in urban warfare; and the antitank assault weapon (I LAW) is being projected. Several areas are emerging, all in the planning stages.

Resources

Research

(U) The Research Division of the Directorate of Research, Development and Engineering is charged with the staff supervision of 41 DA projects which span categories of research, exploratory development, advanced development, and management and support programs. These diverse and broad activities are structured to increase the Army's knowledge and explore the application of new knowledge in the mathematical, environmental, physical, chemical, material, biological, food, shelter, and behavioral sciences and associated technologies and engineering disciplines to the solution of Army problems and the advancement of its capabilities.

(U) The Research Division provides the personnel who are actively engaged in coordination, review, evaluation and overview of the AMC RDTE Military/Civil Disturbance Program, the Joint Technical Coordinating Group for Munitions Effectiveness, the Army's Independent Research and Development (R&D) activities, and the bi-lateral and multi-lateral technical exchange programs with other countries plus numerous other efforts. The AMC became the proponent agency for management of the Army Shelter Program which was broadened to become the DOD Shelter Program.

(U) A DA Manpower Management Survey in September 1972 and subsequent adjustments resulted in authorization to staff the Research Division with a total of 24 spaces consisting of 18 professionals, 1 military R&D coordinator, 1 upward mobility position and 4 secretarial positions. The plan for reorganizing the division to straight-line the division office and form teams organized along technology areas, i.e. Materials Science and Technology, Environmental Science and Technology and Ballistics and Weapons Effects was placed in effect in December 1973. In January 1974 an additional team, Life Support Science and Technology, was constituted with the transfer of five spaces to bring the authorized total to 24.

(U) The project effort monitored and staff supervised by the Research Division totaled about \$151 million in FY 1975, an increase of about \$50 million from FY 1974. The projects support effort performed in 25 Subordinate Commands, Corporate Laboratories and agencies

throughout AMC. A summary of Research Division project funding by program categories follows:

<u>Program Category</u>	<u>No. of Projects</u>	<u>FY75 Funding in Thousands</u>
Research 6.1	20	\$ 54,889
Expl. Dev. 6.2	11	72,291
Adv. Dev. 6.3	3	1,931
Engr. Dev. 6.4	4	5,684
Mgmt & Supv. 6.5	3	16,050
	<u>41</u>	<u>\$150,845</u>

(U) In summary, the overall level of technology base support for Research projects decreased slightly with some notable exceptions. The FY 1975 6.1 Basic Research level remained unchanged; the 6.2 Exploratory Development funding increased significantly in Laser Technology, and in Environmental Quality, but declined or remained static in other areas. The clothing and food areas, in particular, declined in 6.2, 6.3 funding but increased moderately in the 6.4 Engineering Development program element category. In the 6.5 Operational Testing/Support program elements, the meteorology programs and the Army Materiel Systems Analysis Activity received increased bulk funding.

Engineering

(U) The working organization of the Engineering Division during FY 1975 consisted of four (4) branches. The TDA of 40 spaces was reduced to 33 spaces at the end of FY 1975. Reorganization, grade reductions and reductions in force affected the functions and personnel of the division.

Battlefield Command and Control

(U) The Battlefield Command and Control Division is charged with the staff supervision of 51 projects which span the categories of exploratory development, non-system advanced development, system oriented advanced development, engineering development, management and support, and operational systems development. In FY 1975 these 51 projects included in excess of 20 individual tasks including the areas of surveillance, target acquisition, night observation, electronic warfare, and tactical and strategic communications.

(U) The following is a tabulation of active projects funded in FY 1975:

<u>Program Category</u>	<u>Number of Projects</u>	<u>Dollar Levels</u>
6.2	5	\$21,654,000
6.3	18	58,480,000
6.4	17	41,249,000
6.5	1	1,310,000
6.7	<u>10</u>	<u>56,429,000</u>
	51	\$179,122,000

Air Systems

(U) At the close of FY 1975, The Air Systems Division of the Research, Development and Engineering Directorate included four (4) military and twenty-five (25) civilian positions. The funding for Air Systems projects was as follows:

<u>FY 1975 Funding in Thousands</u>	
Element 6.1	\$3,847
Element 6.2	20,604
Element 6.3	62,621
Element 6.4	130,775
Element 6.2	<u>2,700</u>
Total	\$220,547

Test and Evaluation

(U) Under its TDA , the Test and Evaluation Division of the Research, Development and Engineering Directorate was authorized five (5) officers, ten (10) professionals and five (5) clerical personnel for an aggregate of twenty (20) spaces. As a result of a reduction-in-force (RIF), in the last quarter FY 1974, four (4) positions were downgraded. The average strength for FY 1975 was eighteen (18). The division consists of the Chief's office, the Test Management Branch and the Test Operations Branch. It's mission was to coordinate AMC test and evaluation programs for the conceptual validation, development and production phases of the life cycle of Army materiel. It served as the staff focal point for the test and evaluation activities of USA Test and Evaluation Command (USATECOM) and reviewed and justified the annual AMC test and evaluation budget program of USATECOM and its major subordinate units. To accomplish these tasks, the Test Management Branch monitored the USATECOM test facilities, while the Test Operations Branch monitored testing operations.

(U) An operating budget of 138.5 million dollars was managed by the division during the fiscal year. For White Sands Missile Range \$74.8 million was programmed; \$13.6 million for the Army's Test Boards; and \$.4 and \$1.4 million for USATECOM Instrumentation and Test Methodology projects, respectively. Of the latter \$.9M was for procurement of armor plate. The balance of the funds were programmed for Yuma, Aberdeen, Dugway and Electronic Proving Grounds, for Arctic and Tropic Test Centers, for the AMC Field Support Activity/Project MASSTER and a new project: Test Evaluation - AMSAA. The total budget represented a decrease of 11% from the President's budget.

Foreign Science and Technology

(U) Resources (manpower and funds) of the Foreign Science and Technology Program fall into two categories: intelligence and R&D. Intelligence resources are validated at DOD and are furnished AMC by DA.

There are constraints placed on AMC by DA regarding use of these resources in that deviation from DA guidance is not permitted. Utilization of these resources in the intelligence development and production agencies is monitored by AMC and ACSI/DA. R&D resources are provided both at Headquarters, AMC and at the various subordinate command levels. The headquarters resources cover staffing AMCRD-I and conducting efforts related to exploitation of materiel. R&D resources provided at subordinate levels are to cover foreign intelligence functions required by AMC regulations to satisfy local needs. The Foreign Science and Technology Division of the Research, Development, and Engineering Directorate, HQs, AMC administers staff supervision of these activities. The following is a breakout of these resources:

Manpower Resources

	<u>AUTHORIZED</u>	<u>ACTUAL</u>
P3	878	821
Non-AIF	552	534
AIF	273	244
REFLEX	53	43

Research and Development

HQAMC	10	10
ARMCOM	28	26
AVSCOM	7	7
ECOM	12	12
TROSCOM	1	1
MICOM	13	11
TACOM	8	7
TECOM	10	8
HDL	3	3
BRL	4	4
MERDC	6	6
NATICK	1	1
AMMRC	1	1

Funding (Obligation Authority in Thousands).

P3	(20,679.5)
Non-AIF	10,202.5
AIF	8,563
REFLEX	1,224
Special P3 for FME	690
FME	6,650

Armament Systems

(U) Nuclear. Funds for the FY 1975 nuclear programs consisted of \$21.8 million for the Army, \$8.0 million for the Defense Nuclear Agency, and \$6.5 million for other activities.

(U) Chemical-Biological. The total dollar resources for the FY 1975 Chemical-Biological RDTE Program were \$29 Million. This encompassed the RDTE program activities at Edgewood Arsenal, one project at MICOM, and one project at TECOM (DPG). Programs under cognizance consisted of 47 active projects.

(U) Weapons/Mine Warfare. FY 1975 funding in the Weapons/Mine Warfare Program was approximately 50 million.

(U) Countermine and Barrier Programs. Funding for the Countermine Program for FY 1975 was as follows:

RDTE	\$6,633,000.00
PEMA	193,000.00
O&MA	55,000.00
Customer	<u>211,000.00</u>
TOTAL	\$7,092,000.00

(U) Funding for the Barrier Program for FY 1975 was as follows:

RDTE	\$998,000.00
PEMA	0
O&MA	17,000.00
Customer	<u>0</u>
TOTAL	\$1,015,000.00

Missiles Systems

(U) The Missile System Division of the AMC Directorate of Research, Engineering and Development provides staff supervision, technical direction and analysis for over 65 missile development projects. During FY 1975, twenty-five (25) of these efforts were actively funded totaling approximately \$260 million dollars. The following is a tabulation of active projects allocated funds in FY 1975:

<u>Program Categories</u>	<u>Dollar Levels</u>
6.2	\$25,000,000
6.3	47,000,000
6.4	163,000,000
6.7	<u>22,000,000</u>
TOTAL	\$257,999,000

The AMC RDTE Program

Research

(U) In a research environment which demanded efficiency of use of scarce and valuable military personnel and defense dollars, the Research Division activities and accomplishments in FY 1975 were diverse, challenging and significant. In addition to the funded activities and program, there were numerous special activities which involved Research personnel. Some notable examples are highlighted below:

(U) An entire session of the American Geophysical Union National Fall Meeting entitled "Aeronomy of the Middle Atmosphere" was devoted to the presentation of nine papers giving the results of the September 1972 balloon-borne experiment to 49 km. The papers were related to the measurements of solar ultraviolet flux, atmospheric neutral composition, charged particles, and thermodynamic structure obtained over a time frame extending from 0300-1030 MST and a horizontal extent 100 km.

(U) As a result of a major DA level reorganization, the Director, RD&E was assigned responsibility for the extra curricular Basic Research Program conducted at universities by the Army Research Office (ARO) (Durham) and its satellite offices in Asia and Europe. The Research Division was authorized to manage the ARO in executing the program. During FY 1975, a critical review of the program was completed, and management procedure for ARO was developed in conjunction with the AMC Deputy for Laboratories. The outcome of these actions was the issuance of FY 1976 program guidance for ARO to assess the AMC laboratories efforts, and to co-jointly develop a strategy for an overall AMC 6.1 (Basic Research) program that would have a sound rationale for distribution of funds and relevance of the program to solution of critical Army problems involving technology.

(U) Terrestrial Sciences. FY 1975 Accomplishments in Terrestrial Sciences included:

The preparation and distribution of, to DA and AMC Headquarters, a booklet about environmental effects on materiel for use by managers and others involved in materiel development to avoid environmental surprises during testing and operations.

The completion of an analysis for DA staff on the environmental conditions of the Middle East and the effects of these conditions on the design of armored vehicles, including possible results during operations if the effects are not considered during development and suggestion for overcoming these effects.

The performance of the field work for and preparation maps of the surfaced materials of the Yuma Proving Ground to serve as the initial input to the data base of environmental factors required by YTG for materiel testing.

The completion of a study on the effects of environmental factors on missiles during storage, transit and operational use, which contains basic information of value for both national and international design criteria.

The completion of Army-wide coordination of MIL-STD 210B, Climatic Extremes for Military Equipment, which established worldwide design criteria for use by all services.

The completion of two studies that compared temperature characteristics at the arctic and desert test centers with the rest of the world for use by test personnel in assessing the results of tests and in making analysis of risks.

(U) High Energy Laser Materials. During the past year, the AMC Laser Materials and Structures Hardening Plan was developed and approved on 16 April 1975. The plan described the threat that Army materials are apt to be subjected to by High Energy Lasers (HEL) radiation in the 1980-1990 time frame. In addition, the plan details the research effort which will be necessary to combat the HEL threat.

(U) The most important Army target appears to be the helicopter. Secondary targets will include optical systems on ground vehicles, radomes, IR domes used in missiles, and personnel such as a helicopter crew, or personnel located near the prime target.

(U) The threat to personnel, results from the fact that the High Energy Laser beam is being directed at a hard target and there is apt to be beam scattering and reflection. It is not intended that personnel protection be designed for a direct hit from a focused beam. Broadly speaking, personnel protection is broken into two main categories. An effort carried out at Natick Development Center is primarily directed toward protecting the individual soldier. Work at Frankford Arsenal is directed toward area protection and reradiation protection.

(U) Pollution Abatement and Environmental Control. The Army Materiel Command (AMC) has designated Edgewood Arsenal as its Lead Laboratory for Pollution Abatement and Environmental Control Technology (PAECT). In this capacity, Edgewood Arsenal has the mission of providing environmentally related research and development to AMC installations and operations. The general guidelines for these R&D efforts are established by various Public Laws and Executive Orders. The overall program is in concert with the objectives of other organizations such as the Environmental Protection Agency, the Army Surgeon General and the Corps of Engineers. Edgewood Arsenal has prepared a five-year plan.

(U) The AMC Lead Laboratory manages the PAECT program through the major subordinate commands with the assistance of two boards. The Environmental Quality Board (EQB), comprised of the seven sub-commands environmental coordinators, is tasked with correlating the R&D effort with the other environmental projects being supported by OMA, PAA or MCA funds. The Technical Advisory Board is comprised of in-house experts

who can propose the optimum approach(es) to address the problems identified by the EQB and critique the progress of the R&D studies. The current fiscal year funding level approximates \$2.5 million which is marginally satisfactory for this 6.1/6.2 effort. A 6.3A project is scheduled to commence in fiscal year 1977. This kind of follow-on coordination is necessary to encourage new concepts to move from the research phase to fruition. The total funding required over the next five years approximates \$20 million.

(U) In formulating the plan, four pollutant categories and three technology thrust areas were identified. The categories, in descending order of priority, are: munition wastes, solid wastes, watercraft/field operations and fuels/lubricants. The three technology thrust areas, also in descending order of priority are: elimination of the pollution by either recycling the operation or reusing waste products, elimination of the waste by physical, chemical or biological treatment and control of the wastes by monitoring the emissions and effluents.

(U) Independent R&D Program (IR&D). Activities in this Department of Defense (DOD) program were intensified during FY 1975. Approximately 200 profit centers are now required to negotiate advance agreements for recovery of IR&D overhead. The Research and Development programs proposed in the past year totaled slightly over 1.5 billion dollars. Of this amount, recovery from the DOD is expected to be about 700 million.

(U) These technical efforts are oriented toward Army requirements and problems through dialogue with the individual R&D managers at each company subject to the maintenance of contractor "independence." In such endeavors, the Army has been extremely successful in the past year. Numerous contractors have devoted larger portions of their programs to specific Army requirements. Consequently, Army's R&D funds could be used more effectively and productively.

(U) The Department of Defense Instruction (DODI) 5100.66 which had been initially prepared in 1972 was revised slightly and published in January 1975. The revision was an attempt to emphasize the importance of IR&D and to provide a rationale for its support. The DOD seeks to: assure the creation of an environment which encourages development of innovative concepts for Defense systems and equipment which complement and broaden the spectrum of concepts developed internally to DOD; develop technical competence in two or more contractors who can then respond competitively to any one requirement DOD seeks from industry; and contribute as appropriate to the economic stability of its contractors by allowing each contractor the technical latitude to develop broad bases of technical products. The Army Materiel Command Regulation (AMCR) 70-40 which implemented the DOD Instruction was to be revised to reflect the new policies.

(U) At the end of FY 1975, the IR&D Data Bank at the Defense Documents Center (DDC) was not yet completely operational and was not expected to be operational for another year. In the meantime, the IR&D Data Bank

at MICOM was slowly phasing out its operation. As a result of negotiations between DOD and industry, permission had been obtained to transmit the proprietary R&D information of these industry programs to protected remote terminals. Since MICOM had such a system in operation, it would be easy to tie in to the DDC Data Bank eventually. Access to this information would be on a need-to-know basis and the information generally would be processed as confidential. The decision by industry to permit such transmission was undoubtedly the result of Congressional pressure.

(U) The IR&D Manager continued providing the required technical assistance to the Requirements and Procurement Directorate in the form of determinations of the relevance, potential military relationship (PMR), of IR&D tasks involved in after-the-fact negotiations in addition to the technical quality evaluations of those programs for which the Army is responsible. Documents have been prepared to assist contractors in the preparation of their annual technical plans required for the technical evaluation. In addition, instructions for in-puts to the DDC Data Bank have also been prepared.

(U) Technical evaluations were made on those contractors' programs for which the Army was responsible, and on-site reviews were conducted at the contractor's plant to confirm the results of the technical evaluations. The number of on-site reviews scheduled by the three Services has been running approximately 75 per year. This is due to the requirement that an on-site review be held at least once every three years and more often for the larger contractors and those whose programs require special attention. Army IR&D responsibilities increased from eight (8) to twenty-three (23) contractors with a dollar volume increase from 40 million to 300 million.

(U) During the past two years, the General Accounting Office (GAO) has conducted an intensive study of all phases of the DOD IR&D Program as requested by the Congress. In this regard the Army Manager has provided considerable assistance both directly to the GAO and also to the many studies that were generated by the DOD IR&D Policy Council. It was intended that the results of these studies would be reported to the Congress on 1 April 1975 in order to permit consideration in the DOD budget exercises. As of this date, however, the report has not materialized. It was expected that there would be extensive recommendations for changes in procedures which would require the Policy Council's attention and decisions on the part of The Army Manager and the Service Secretaries regarding the degree of acceptance and implementation.

(U) Projects. During FY 1975, the AMC RDTE program was actively pursued in all areas including projects in basic research, exploratory development, advanced development and in operational systems. Specific projects pertained to but were not limited to: terrestrial sciences, atmospheric sciences, mechanics, human factors, combat support, materials, ceramic materials, organic and composite materials, high energy laser program, clothing equipment and packaging, fuels and lubricants, battlefield

command and control, weapons and equipment systems, surveillance systems, communications, technical data, subsistence and more.³

Test and Evaluation

(U) Projects. Thirteen (13) RDTE projects were monitored on a continuing basis. These projects are of non-commodity status and provide test and evaluation management support. Effort was continued on Army management of the DOD National Range Mission. Support was rendered to all range users in accordance with DOD Directive 3200.11, to include the three military services, NASA, AEC and other government agencies on a non-reimbursable basis. Range activities included: development, engineering and procurement of major range instrumentation; instrumentation operation and maintenance; logistic support; communications; computer and data reduction services; and calibration of scientific instruments. Significant actions during the year included the following:

(U) Impact of AMARC (Army Materiel Acquisition Review Committee)
A new project, D026- Test Evaluation AMSAA, was established in response to an AMARC recommendation to the effect that the AMSAA missions be expanded to include Test Design and Evaluation of Major and selected non-major materiel systems. Also, two new command objectives were implemented in response to AMARC recommendations. RD-6 on increased use of contractor testing and RD-9 on increased use of simulation and/or modeling to reduce test costs and/or time.

(U) Studies were conducted by TECOM and TRADOC relative to transfer of test boards from TECOM to TRADOC. Based on these studies, the test boards (less Aviation) were transferred provisionally in April with formal transfer to be completed as of 30 June 1975. The transfer was made in response to an AMARC recommendation.

(U) TECOM HQs and field activities have been realigned to be consistent with a new AMSAA role and the transfer of five of its six test boards to TRADOC (Aviation Test Board temporarily remains with TECOM). Included in the plan is the concept that a small number of soldiers be stationed at each Proving Ground. These soldiers would be MOS trained in the type equipment tested at the Proving Ground and would be used in initial solder-operator-maintainer testing, particularly in the RAM, HFE and safety areas. A study is in progress (to be completed in July) to provide a basis for decision on the future of the Aviation Test Board.

(U) In response to directions from the Under Secretary of the Army and the resulting policy stated in AR 1000-1, effective 1 January 1975, an AMC policy entitled "Single Integrated Development Test Cycle (SIDTC)" was formulated. This new concept recognized the fact that valid test

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For the developmental status of specific projects see Annual Report of Major Activities, Directorate for Research, Development and Engineering, HQs, AMC, FY 1975 in files of AMC Historical Office.

data can be generated by many sources (laboratories, arsenals, proving grounds, and contractors) and that all valid data, regardless of source, should be used to evaluate a system at the various decision points. Under the new concept, government testing will be conducted only to supplement valid contractor test data or to provide that data which cannot be generated through the normal contractor development effort. Hence, the emphasis in development test and evaluation has shifted from independent government testing to an independent evaluation of valid data, regardless of the source.

(U) With the shifting emphasis for development testing, the total program management responsibility of the materiel developer becomes more focused than ever before, in that the developer must orchestrate the supporting efforts of all participants and integrate valid requirements into a total cost effective development effort. The developer would form and chair Test Integration Working Groups (TIWGS), to coordinate the total effort of AMC, the combat developer, logistician, development and operational tester. The TIWG will assist in the formation and coordination of the Coordinated Test Program, a critical program to the development effort.

(U) The 7 April 1975 Letter of Instruction from the ODCSRDA which implemented the new AR 70-10, Test and Evaluation tasked this headquarters, in conjunction with USATRADOC, USAOTEA, and ODCSRDA, to develop a draft DA PAM 70-XX, the Coordinated Test Program, which addresses the preparation and maintenance of the Coordinated Test Program. Staffing of draft copies of the document was completed in June 1975. Final draft of pamphlet was to be forwarded to DA in July 1975.

(U) Test Schedule and Review Committee (TSARC). This RD&E, Test and Evaluation division represented AMC at TSARC Working Group meetings in November 1974 and April 1975, and earlier at the Special Working Group meeting of 23 July 1974. The division also prepared the AMC position for the November 1974 TSARC General Officer meeting at which the Director, RD&E, represented AMC. The General Officer meetings for the July 1974 and April 1975 reviews were cancelled because all issues were resolved in the Working Group meetings. At the July Special TSARC, the Working Group considered 38 Outline Test Plans for publication as a supplement to the Five-Year Test Program (FYTP). At the November 1974 TSARC, 245 tests were approved for publication in the FYTP. At the April 1975 TSARC Working Group, 286 tests were approved for publication in the FYTP.

(U) SNOWTIME Instrumentation and Data Reduction Study. This study is designed to determine the feasibility of adapting the Army's existing air defense instrumentation system (SNOWTIME) to more effectively and economically test the new computerized air defense control center AN/TSQ-73. AMC, in cooperation with OTEA, is participating in the funding and management of this effort. Denver Research Institute was awarded the contract which is expected to be completed in July 1975. Overall direction is provided by a Study Advisory Group (SAG). The SAG derives the scope, terms of reference, and essential elements of analysis. Its

membership includes: ODCSRDA, OTEA, HQ AMC, TECOM, PM ARTADS, TRADOC, USAF Tactical Fighter Weapons Center, and the US Army Communications Command.

(U) The results of the study is visualized as forming the basis for a decision as to what equipment to employ or design and produce to test the AN/TSQ-73. It will also contribute to the effective utilization of existing instrumentation systems which is in the best interest of both the Army and Air Force and should provide significant savings to the overall DOD test and evaluation effort. The Test and Evaluation division represents HQ AMC at SAG meetings and monitors AMC participation and support for the Study.

(U) Tactical Effectiveness Testing Antitank Missiles (TETAM). TETAM is a program designed to assess the combat effectiveness of antitank guided missile systems (ATGM) under simulated conditions. It includes CDEC experimentation, modeling, study, and analysis. The Test and Evaluation division monitors and supports TETAM.

(U) Actions completed during FY 1975 included: The final Ad Hoc Evaluation Group (AHEG) meeting was held in Camberly, England in October 1974 and the AHEG final report was accepted; CACDA reported on their analysis of CDEC Experiment 11.8 and the model validation effort was continuing; MICOM collected preliminary data on gunner tracking error and began exploratory instrumentation development effort in support of CDEC; AMSAA completed development of ANALOG simulation models of the Shillelagh, TOW, and DRAGON and developed candidate target maneuvers which tax the systems and these maneuvers were provided to CDEC for use in the field trial phase of the test which would be conducted at Hunter Liggett Military Reservation, California; and modification of tracking sensors was begun to allow tracking of target vehicles at maximum range in all directions.

(U) Human Engineering Laboratories Battalion Artillery Test (HELBAT) The HELBAT program consisted of a series of studies and field experiments designed to measure and parcel out human factor errors in the fire control system utilized by the artillery and to develop procedures to improve the effectiveness of artillery firings. These studies and experiments began at Fort Hood during August 1969. This Test and Evaluation division was responsible for the administering of the AMC portion of the HELBAT program.

(U) The latest effort was (HELBAT V) developed as a result of the successes of previous HELBAT studies which demonstrated the capability and feasibility of the automated fire control system utilized during HELBAT IV. This system offers the field artillery the capability to successfully engage moving targets with considerable improvement in response time and accuracy of fire. HELBAT V was designed to coordinate developer and user efforts to improve the concepts, doctrine, operation, and cost effectiveness in developing an automated fire control system. All testing was completed by the close of FY 1975 and a report was being prepared.

Engineering Programs

(U) Manufacturing Methods & Technology (MM&T)/Production Industrial Facilities (PIF). During the Fiscal Year, the Engineering division reviewed and recommended approval of over \$1.88 million of PA funds to support one active Manufacturing Methods and Technology (MM&T) project and 4 Production Industrial Facilities (PIF) projects monitored by the division. These projects were the improvement of TECOM production test methodology engineering measures (\$754 thousand) and the following Production Industrial Facilities in the amounts shown: Jefferson Proving Ground - \$258,500; Yuma Proving Ground - \$287,500; Aberdeen Proving Ground - \$280,000; and White Sands Missile Range - \$300,000.

(U) Product Improvement. Increased emphasis on Product Improvement (PI) as the alternative to new development resulted in considerable program growth. The AMC program for FY 1977 totaled about \$600 million dollars and consisted of 99 new PIPs and 252 on-going PIPs. AR 70-15, Product Improvement of Materiel, was published and supersedes AR 700-35 effective 15 May 1975. As of 1 July 1975, proponentcy of AR 70-15 to include preparation, monitorship, and revision will be transferred to AMC. ODCSRDA will retain final policy approval authority.

(U) Military Adoption of Commercial Items (MACI). In the MACI program, representative samples of construction equipment are purchased, rented or loaned to the Army. These items are tested and essential performance and physical characteristics are determined. Modifications are made to the items so that they are compatible with standard military equipment or able to perform a stated military function described in a performance type specification. This specification (which includes testing criteria) is used to procure quantities of end items.

(U) During FY 75, the following MACI procurements were completed:

Ditching Machine	2 each
Loader, Wheeled, 2½ ea yd	10 each
Tractor, Wheeled, Agriculture	43 each
Tractor, Wheeled, Industrial	65 each
Truck, Dump, Quarry 20-25 Ton	1 each
Breaker, Pacing, Type 2	50 each
Crane, 45 Ton	2 each
Sweeper, Magnetic, S/P	33 each

(U) Redesign engineering was completed on the following items to meet airdrop and airmobile requirement.

Motorized Road Grader
Full-Track Tractor (J.I. case Model 1150)
7½ Ton Commercial Crane (Galion Model 80)
2½ Cubic Yard Rubber Tired Loader (Allis Chalmers Model 645M)

(U) Construction Equipment, Alaska Pipeline Project. An AMC (MERDC) Team reviewed the commercial pipeline project in Alaska to determine the performance requirements for construction equipment (as well as for fuels and lubricants) while operated under winter environment. Machines were stored inside heated buildings and continuously operated if stored outside. Minimal canvas or board heat shielding was provided around the operators compartment. Electric heaters as well as fuel-fired heaters were used and arctic fuels and lubricants were essential. The Army's requirement was to design for -65°F which required extensive modifications to the cabs, engines, special hoses, belts, tires, etc.

(U) Engineering Support for Procurement. Engineering support for quantity procurement required the update of technical data packages in the following 12 Federal Supply Classes.

- 2410 Tractors, Full-Track, Low Speed
- 2420 Tractors, Wheeled
- 3210 Sawmill and Planing Mill Machinery
- 3630 Clay and Concrete Products Industries Machinery
- 3805 Earthmoving and Excavating Equipment
- 3810 Cranes and Crane Shovels
- 3815 Crane and Crane Shovel Attachments
- 3820 Mining, Rock Drilling, Earth Boring, and Related Equipment
- 3825 Road Clearing and Cleaning Equipment
- 3830 Truck and Tractor Attachments
- 3895 Miscellaneous Construction Equipment
- 3910 Conveyors

(U) Engineering support for International Logistics Programs included the following items:

Grader, Heavy	6
Loader 2½ cu yd	3
Tractor, Full-Track, Medium	7
Roller	4

(U) Commercial Construction Equipment. Commercial Construction Equipment procured during FY 1975 included:

Loader, Scoop, Wheeled, 4-½ to 5 cu yd	125
Roller, Vibratory, Self-Propelled	72
Roller, Pneumatic Tired	103
Tamper, Backfill, Gasoline Engine Driven	130
Tractor, Full Track, T-11 Size	141
Tractor, Wheeled, 1-½ cu yd Loader, 3/8 cu yd Backhoe	114
Distributor, Bituminous, 1500 Gallon	30
Roller, 10-14 Ton, Steel Wheeled	22

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Management Improvements

(U) Lessons Learned. At the direction of the DCGMA a procedure was established by the R&D Directorate during December 1974 to collect, consolidate and forward lessons learned to the office of DCGMA. These lessons learned were then reviewed and those of value to others in the materiel acquisition area published in the Materiel Acquisition Newsletter so everyone could benefit from lessons learned by others. Another aspect of this process was to publish "Did you know?" articles that provide information about new and interesting developments to the readers of the newsletter. A comical slant was added by the inclusion of "Freddie Foulup," articles which indicate how not to accomplish certain actions. A total of forty lessons learned have been submitted by all Directorates including R&D. This is considered an important aspect of our project management process.

(U) Unsolicited Proposals. In recent months AMC held numerous conferences with industry in an effort to improve the interface in the total materiel acquisition process. Specific initiatives were established for improvements. One of these was to improve our procedures for processing unsolicited proposals (UP). A permanent Unsolicited Proposal Evaluation and Review Committee (UPERC) was established at HQ AMC in late 1974 to evaluate responses to proposals prior to dispatch. The purpose was to insure timely and fair evaluation of each proposal and to provide each proposer a factual and timely response to his proposal. It further sought to dispel the Not Invented Here Syndrome (NIH) perceived by many in industry. UPERC was also established at the major subordinate commands. Recently, a task force examined the progress being made in improving the UP process. It was determined that improvements had taken place. However, it was determined that continued improvements were needed particularly in the timeliness and content of responses. Samples were taken of industry and small business regarding NIH. It was found that NIH was not as significant a problem as originally thought. However, continued emphasis would be needed to insure unbiased evaluation of each proposal.

(U) Modernized Army R&D Information System (MARDIS). MARDIS, a management information system which centralizes and automates R&D reporting, was operationally tested at MERDC, Natick Development Center, HQ AMC, and office of the Deputy Chief of Staff for Research, Development, and Acquisition (ODCSRDA) during FY 1975. A final test report was due in September 1975.

(U) Under MARDIS a central data base of essential data elements is maintained for each RDTE project and task. As a certain "mix" of data elements would be required to satisfy a specific report, these specific data elements were extracted from the computer memory to generate the reports. Use of the central data base assures data consistency and eliminates redundant reports. Up to 24 different R&D reports may be produced from MARDIS. These include RDTE budget formulation, support materiel, phase scheduling, and planning summary reports. Based on

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results to date, ODCSRDA decided to implement MARDIS across the Army R&D community.

(U) Army Master R&D Priority Listing. AMCRD initiated an effort to arrive at an Army Master Priority Listing sufficiently fine tuned to correctly reflect Army R&D priorities at any given time. The priority listing was prepared for the technological base, advanced, engineering and operational systems development by integrating numerous existent specialized listing i.e., Big 5, Under Secretary Army, ASA (R&D) Little Five, DCSOPS, DCSRDA (TOP 29), TRADOC (TOP 40), etc. The Master Priority Listing gives highest priority to those systems having the greatest consensus among Big 5, USA, ASA (R&D), DCSRDA, DCSOPS and TRADOC. Copies have been provided to HQ TRADOC and HQ DA for further refinement and ultimate use in allocating budget funds.

Armament Systems

(C) Chemical-Biological. Rocket sled tests were conducted at Eglin Air Force Base to study the parameters affecting liquid breakup. Estimates of the particle size distribution and spatial distribution were derived from interpretive analysis of the data from these tests and were used to modify dissemination models for delivery systems. Rocket sled studies were to continue. Temperature/humidity studies were to be initiated to characterize environmental effects on liquid droplets. Various items of foreign chemical detection and protection equipment were evaluated during FY 1975.

(C) Nuclear Munitions: Project 1W162615AH74. During FY 1975, Exploratory Development efforts were pursued in the technical areas of: Safety and Survivability, and Effectiveness and Systems Concepts. In the Safety and Survivability area significant accomplishments were as follows:

(C) A turbo-alternator power source with associated safing features (i.e., safing valve, gas initiating coded and environmental enabling mechanism) was designed and breadboarded for application in the PERSHING II proposal. A fluidic switch actuator was designed which can be utilized to function a set of hardened rotary switches. This switch actuator design was also proposed for PERSHING II.

(C) An electrical to fluidic bi-stable switch device has been designed and breadboarded. This device will have a preferred initial state and will switch its output state only upon receipt of an electrical input signal.

(C) A study of various penetration fuzing concepts including a curvature limit switch approach was initiated. Another study was initiated on an electrical power generator concept which would extract and fulfill its energy requirements from the inertial penetration field for subsequent fuze operation.

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(C) The evaluation of the behavior of materials critical to nuclear weapon safety has continued. An experimental evaluation of conformal coatings exposed to high temperature environment was published and distributed. All sample materials for flexible printed wiring boards were received and tests of twenty-four samples completed. An initial industry survey of structural, dielectric, and potting materials was performed and preferred materials identified.

(C) The preliminary design of a hard electrical switch for use with safety components was completed and potential fabrication problems were investigated with industry.

(C) Initial efforts have begun to attempt to understand and define the behavior of nuclear weapons exposed to an impact environment. A simple weapons structure was defined which would be used for analytical and experimental investigations. The mechanisms involved in the impact of this structure were determined analytically. This work was published in a preliminary report. The evaluation of available fault tree computer programs has continued. Four different fault tree models were evaluated and applied on an experimental basis. None of these models provide all the features desired for comprehensive fault tree analysis. Equations to define the heat transfer within a nuclear weapon exposed to a fire environment were defined and incorporated in the Continuous System Simulation Language for the CDC 6600 computer. The SPARTAN adaption kit was modeled using these equations and the thermal constants were established based upon test data. A report of this work was in the process of being published at the end of FY 1975. Another detailed report for engineers who would apply the model to future weapons was being written.

(C) A new ARMCOM/Picatinny Arsenal nuclear safety philosophy has been developed. This philosophy will be applied to all future Army Nuclear Weapons. It is responsive to DOD Directive 5030.15 and assures the objective of Army Pamphlet 50-2 will be attained.

(C) In the area of Effectiveness and Concepts, significant accomplishments included:

(C) A Phase I Tactical Earth Penetrator Weapon (TEPW) study was completed and published. The study presented concepts for several missile and tube artillery systems. It concluded that TEPW could defeat many ADM and tactical targets and could contribute in an interdiction role, but that ADM's were still required for other AMC targets. Further Phase 2 studies were recommended to determine feasibility of the concepts.

(C) Efforts in support of the target activated munitions (TAM) utilizing an active radiometric sensor for target acquisition, tracking and HOB sensing has continued. New TAM antenna designs and improved concepts to improve target discrimination were evaluated. A preliminary TAM concept study report, TR-4657, entitled "Target Seeking/Height Sensing Projectile," was prepared and published. Studies were performed on a smooth low-profile/low-aerodynamic drag, 9 cal fin-stabilized Sears-Haack projectile

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configuration sabotaged in the M110E2 Weapon System. Aeroballistics analyses indicate that this concept may satisfy the Army's extended range artillery capability. Effort on the extended range projectile concept by the delivery of long, low-drag, sub-caliber fin-stabilized configurations from the 203mm howitzer M110E2 or M110 was continued. Computer simulations indicate that nine caliber length configuration 155mm, 165mm and 175mm in diameter can achieve ranges of 48km, 40.9km and 35.1km, respectively. A preliminary parametric analyses to optimize the sabotaged projectile concept in terms of caliber, length, weight and configuration for payload and accuracy was undertaken.

(C) Effectiveness evaluations were conducted in support of Pre-Phase II studies on the PERSHING II System and a Phase I Study for a Tactical Earth Penetrator Weapon (TEPW) System. Candidate warheads were evaluated on a parametric basis considering delivery accuracy, depth of burst, and target response estimates, etc., in an attempt to optimize warhead effectiveness and minimize collateral damage.

(C) Computer models, predicting fallout patterns resulting from surface as well as sub-surface bursts, were obtained and modified for specific weapon systems evaluations.

(C) In an attempt to evaluate TEPW Systems, efforts were initiated to obtain appropriate targeting information to satisfy Phase I objectives. Picatinny Arsenal established contact with both the European and Pacific Theaters and obtained selected targeting data. A visit to HQ, USAREUR and HQ, EUCOM resulted in a direct exchange of information necessary for the Phase I analysis. For future efforts, the theater planned to identify appropriate targets which would be representative of both target type and geographical location. This data would then be employed to generate required geological profiles necessary for soil penetration evaluations and resultant effectiveness and collateral damage assessments. Geological surveys planned by Theater personnel, would then be used to corroborate theoretical geological predictions.

(C) The Tactical Nuclear Damage Evaluation Model (TANDEM) was obtained through ARPA, from the RAND Corporation, and was adapted and modified for Picatinny Arsenal computers. This model was being employed for current weapon systems evaluations and would be used for future Phase I and Phase II studies.

(C) In support of the new 8" XM753 Program, and for use with any proposed or contemplated nuclear weapon systems, radiation shielding characteristics for three Soviet armored vehicles (T62, T55 medium tank, PT76 light tank) were received. This data provided shielding aspects as a function of orientation about the vehicle for various nuclear device outputs and burst heights.

(C) Nuclear Projectiles: Project 1W663604D443. A Phase II Study Group was formed and is currently developing detailed information on projectile and warhead designs for an extended range 155mm projectile. This effort was scheduled for completion around April 1976.

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(C) "8 Inch Projectile XM753": Project 1W664603D663. At the end of FY 1975, the new 8" nuclear projectile was in full development. A CF IPR was held and approved. A TIWG was held and a DOD/ERDA joint schedule approved. Work was on schedule as per the approved DOD Program Memorandum. Initial tests indicate no major problems.

(U) Atomic Demolition Munitions: Project 1W664603D663. Early in the fiscal year, evaluation of competitive atomic demolition munition (ADM) firing systems proposed by Sandia Corporation and Picatinny Arsenal was concluded. The evaluation was conducted by a group of non-aligned individuals experienced in the technical discipline involved, and from organizations without a mission in atomic demolition munitions or a vested interest in the outcome. The Director, BRL (Ballistics Research Laboratory), was asked to organize an appropriate group and designated the chairman - Mr. Julius Meszaros, BRL. The group recommended the Picatinny Arsenal proposal for continuation of development efforts.

(C) During this period, the DA and the DOD were evaluating Phase 2 proposals for new atomic demolition munition systems to modernize the Army's nuclear weapon capabilities. This review resulted in termination of all R&D efforts in atomic demolition munitions, including the AMC firing system program.

(C) ARMCOM activities were reoriented to bringing to an orderly conclusion firing system R&D activities, and to consider what steps should be taken to maintain the safety, reliability, and operational characteristics of the ADM stockpile. By the end of the fiscal year, several product improvement proposals were in process.

(C) Nuclear Projectile M422 Mod: Project 1W664603D388. Efforts in this program developed into a major activity during FY 1975. The program was begun to modify the operational M422 projectile to make it compatible with the M110E2 howitzer, which has a higher twist tube than the operational M422.

(C) Based on limited test information from the M422 1955-1958 development program, it was thought that a simple modification (pinning the nuclear rings together and to the projectile base to prevent independent ring spinning) would be all that was necessary. The first test indicated that the pinned-ring projectile performed poorly. Evaluation of all test data from the former development program led to some concern as to whether there was sufficient confidence that the M422 performed predictably from the operational M110 howitzer. Primary objective of AMC efforts during the last quarter of the fiscal year was to establish an adequate data base from which to predict with confidence M422 ballistic performance.

(C) Hardened BMD Materials. Completion and significant results. The Hardened BMD Materials Program, established by AMC at the request

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of DOD and OCRD, to address the research and development of hardened materials for future BMD's has made substantial progress during this year. The major AMC laboratories involved in this effort were the US Army Materiel and Mechanics Research Center (AMMRC) and the Ballistic Research Lab (BRL). Small efforts also exist at Harry Diamond Laboratories and Missile Command. AMMRC is the Lead Laboratory for the single program element and overall program responsibility. The fundamental program addresses the problem of hardening current and new BMD materials against pulsed nuclear radiation, and ablation and erosion and environments. It involves effort in environments, advanced prediction techniques, hardened electronics, hardened nose tips and control surfaces, optical sensors and substructures. An improved liquid pitch impregnated carbon/carbon fine weave nose tip material has been fabricated, tested in the 50 megawatt arc and flight tests designed for final material characterization. The optical sensor tasks concentrated on intrinsic photodetector improvements and methods to improve multi-detector array data output under operational conditions. Fabrication and testing of high modulus graphite epoxy subscale substructures has begun. The beryllium substructures program has entered the subscale design phase. Advanced subscale motor case materials will be tested in the Dining Car underground test. The debris environments program has entered the experimental design phase. At the direction of the Assistant Secretary of the Army for Research and Development, this program's monitorship has been transferred at the DA level to the Ballistic Missile Defense Program Manager control. Funds in the amount of \$4220K were allocated and expended in FY 1975.

(C) Mine Program. The advanced development objectives of the mine program were to define, investigate, and conduct development of components aimed at concept synthesis and formulation of a system of scatterable, self-destructing AP and AT/AV mines using advanced-type warheads deliverable by artillery/ rocket, rotary, and fixed-wing aircraft and ground vehicle dispensers. The engineering development objectives of the mine program were to design/develop a family of AT/AV mines deliverable by artillery, aircraft, ground dispenser, and rocket, to meet defined requirements. Prior to initiation of ED, an intensive effort to adapt and integrate mine components into specific mine-delivery systems will have been conducted and a systems concept will have been formulated. The general approach was to develop a basic kill-mechanism and sensor which would be similar or the same, in all members of the family, with minor difference in the S&A as dictated by the delivery media.

(C) Major problems in the Mine Program included: nicoleit evaluation of the XM718 at Projectile resulted in a short round problem under high induced yaw conditions, attributed to cargo movement. Alternate design methods of prevent cargo movement are under evaluation. Preliminary tests were satisfactory and confirmatory tests are continuing.

(C) The FY 1976 Production Program on XM692E1 Projectile was cut back from \$9.2 million to \$3.6 million; which would result in an uneconomical buy and a break in production between FY 1976 and FY 1977.

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(C) \$5.0 million was needed to complete the automated equipment line for the XM692E1 Projectile. Project Manager for Selected Ammunition was working with Office Project Manager for Production Base Modernization and Expansion to obtain funds for a fully automated line which would effect savings in production.

Missile Systems

(U) To gain more managerial flexibility and greater responsiveness to high authority, management by objectives has been applied in the development of new missile concepts. This type management puts full emphasis on specific projects needing highly specialized efforts and offers greater flexibility and visibility over results of development programs. In support of this endeavor the Army Missile plan has been provided as an overall planning tool for documenting missile requirements.

(C) Significant accomplishments were achieved in the area of fast burning propellants and radar attenuation.

(C) In Fast-Burning Propellants: Small motor firings were conducted on a slurry composite modified double base (CMDB) propellant containing graphite linters as "mechanical" rate augmentors. This formulation was an analog of the zirconium staple containing propellant previously developed with graphite substituted for zirconium to reduce sensitivity and nuclear effects susceptibility. The rate goal of 12 in/sec at 2000 psi was obtained, but the propellant mechanical and processing properties were unpromising for scaleup. This work provided the data base for development of the base given approach to incorporate graphite linters which was picked up under BMDATC funding.

(C) Radar attenuation in S&L bands was measured in nominal 50-pound motor firings of the zirconium CMDB propellant. These data indicated that the attenuation associated with this formulation was considerably worse than SPRINT. Attenuation measurements on composite formulations were deferred pending completion of propellant development work under EMDATC funding.

(C) MANPADS. The MANPADS effort consists of two major areas of advanced development, the STINGER Alternative System and the POST/Rosette Scan Seeker. The objective of FY 1975 was the continuation of system and seeker design and test leading to limited surface-to-air flight tests during FY 1976.

(U) The STINGER Alternate system design is complete and contractor testing has progressed through subsystem and system tests, ballistic missile flights and controlled test vehicle flights. The first guided flight test was scheduled for 2 July 1975, the first of a series of ten prior to the SPR.

(C) The dual mode UV/IR, Rosette Scan POST Seeker exhibited significant CCM capability during ground-to-air testing in December 1974. Brass-board seekers in a CHAPARRAL configuration demonstrated greater acquisition

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ranges than either the current CHAPARRAL or STINGER seekers, with a greater than 90% flare rejection capability. Subsequent effort was concentrated on further improving flare and background discrimination capability and in packaging the POST Seeker within STINGER envelope constraints. Current planning includes expanding the existing Phase V contract to include flight testing of five POST Seekers on STINGER airframes.

Joint Activities

Research

(U) The rising cost of defense manpower, maintenance and operations has grown to such levels that a substantial reduction in funds available for investment in R&D has resulted. As a consequence, the pioneering and aggressive research accomplished by sister services on the whole spectrum of common interest has become not a luxury but a necessity. The result has been improved performance and higher research productivity toward solutions to complex problems without duplication and proliferation. Continued cooperation as illustrated by the examples outlined below will increase the yield of fruitful results while reducing the costs in dollars and manpower.

(U) Joint Services Explosive Program (JSEP) - In 1975 the Joint Services Explosive Program was given high priority to attempt the type classification of auratex-20 explosive as a substitute fill for high-use ammunition. The qualification program was designed to enable the ASA(I&L) to exercise option on the use of alternate loading for artillery shells, and how this would impact on the modernization and expansion of explosive plant facilities. The Joint Technical Coordinating Group for air-launched non-nuclear Ordnance was assigned responsibility for the program. The cause of the reorientation of the program to focus on surface-to-surface munition, the Army membership was changed, ending up in the Armaments Division, and the reorganization of the VTCG to a new group, the VTCG/Munitions Development was manned by the Research Division. The JTCG/MD will, in the future, coordinate all Army, Navy, and Air Force programs on surface-to-surface and air-to-surface munitions programs.

(U) CB Chemical Protective Clothing - Items of chemical protective clothing developed by the Army is of vital interest to the Air Force. Exhaustive testing of chemical clothing under a tripartite agreement with US, UK and Canada will include other services in order to provide a basis for decisions on which suit (or combination) to adopt.

Engineering

(U) Defense Science Board Task Group on Specifications and Standards. AMC provided the Army member on the Defense Science Board Task Group on Specifications and Standards. This group studied and investigated the Defense Standardization Program from the standpoint of: Quality of the

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documentation; organizational structure; and application of specifications and standards on contract. This group completed most of its work in FY 1975. A final report was expected in September 1975.

(U) A task group, chaired by a member of the Defense Materiel Specifications and Standards Office, was established to investigate the feasibility of interfacing the Automated Engineering Document Preparation System (AEDPS), Defense Integrated Data Systems (DIDS), and Parts Control System (PCS). Two subcommittees were established. The chairmanship of subcommittee number two was provided by AMC, AMCRD-EM. The subcommittee number two was formed to investigate all aspects of the DIDS and AEDPS to ensure minimum duplication of systems design (i.e., technical interface problems and standardization of input requirements where applicable) to obtain optimum utilization of both systems to improve the DOD Parts Control System.

(U) Government-Industry Data Exchange Program (GIDEP). Army participation in the Government Industry Data Exchange Program (GIDEP) increased during FY 1975. The Joint Logistics Commanders agreed to share the operation funding for GIDEP. AMC's share of the funding (\$375,000) was provided equally from RDT&E and OMA funds. The Joint Logistics Commanders agreed to merging the Secretariat for Electronic Test Equipment (SETE) with GIDEP.

(U) Defense Standardization Program. During FY 1975 the Army Materiel Command assigned two representatives from the Army Departmental Standardization Office (a part of the Engineering Division of the RD&E Directorate) to the committee established at the Defense Materiel Specifications and Standards Office (OADS, I&L) to revise the Defense Standardization Manual 4120.3-M. This manual contains the policies and procedures used by the Army, Navy, Air Force, and Defense Supply Agency in implementing the Defense Standardization Program. The committee met one day each week from January 1975 until June when the assignment was completed. The revised manual has been simplified and organized in such a manner that it will be easier to locate policies and procedures.

(U) Air Systems. Tri-service activities were accomplished by AMC participation in the following Joint Technical Coordinating Groups:

- Air Drop
- Aircraft Survivability
- Air-Launcher Non-Nuclear Ordnance

(U) Joint development and testing program was pursued by AMC (PM NAVCON) with the US Marine Corps on the Position Locating and Reporting System (PLRS).

(U) Joint development and testing was pursued by AMC (USAECOM) with the other military services, National Aeronautics and Space Agency, and the Department of Transportation on the National Microwave Landing System.

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(U) AMC (PM NAVCON) participated in the Loran Interservice Group (LORIG) and the various working groups in the areas of Electronic Counter-Counter Measures, Propagation Effects and Universal Transverse Mercator (UTM) coordinate conversion. This joint-service group coordinates all the US development efforts in LORAN navigation. Participants include Army, Air Force, National Security Agency, Coast Guard, and Department of Commerce (National Bureau of Standards).

(U) Joint development and testing program was pursued by AMC (PM SATCOM) with the Air Force and Navy on the NAVSTAR Global Positioning System.

(U) AMC (USAECOM) and the Air Force participated jointly in the evaluation of the British developed landing system - Microwave Aircraft Digital Guidance Equipment (MADGE).

(U) AMC participated in the procurement of a tri-service airborne VHF-AM radio (AN/ARC-164) with the USAF and Flight tested the RT-1167/ARC-164(V), Army version, at the Army Detachment, NAS, Lakehurst, NJ, in a SLAE configured UH-1H.

(U) A joint development and testing program was pursued with the Air Force and Navy on the Tri-Service Illuminating Flare and Dispenser, and the 2.75 Inch Chaff Warhead.

(U) Joint development and testing programs were conducted with the Navy at the Naval Weapons Center, China Lake, California.

(U) A subpanel of the joint Deputies for Laboratories Committee was established on parachutes and aerial delivery. Its mission was to study and identify joint service functions and facilities, capabilities, and capacities in the area of parachutes and aerial delivery research, development, test and evaluation directed toward a maximizing of facilities utilization and joint/interdependent development and testing of new technologies or materiel, particularly where consolidation or combined management arrangements would improve interservicing and yield high payoff. AMC was designated chairman, and findings resulted in the expansion of an existing interservice support agreement with USN to include USAF, an interservice study group to establish joint doctrine based on threat conditions and the drafting of a memorandum of understanding on technology base responsibilities and testing procedures.

(U) Armament Systems. The joint Army AF CB organization established 1 July 1971 within the Weapons/Munitions Systems Division, RD&E Directorate, continued for the fourth year. Test plans have been prepared to evaluate the USAF Automatic Chemical Alarm, A/E 231-1 (V), and the USAF CB Modification Kit, KMU-450/F. A troop test is planned to evaluate the decontamination capabilities of Chemical units and teams (DECAP CHUTE).

(U) USAMERDC continued its close cooperation with the US Navy in development of the Fuel Air Explosive (FAE) mine neutralization program.

Warheads for both the FAESHED and SLUF AE were adaptations of the Navy CBU-55/B FAE wear on. Extensive testing of the FAE systems was conducted at the Navy Weapons Center, China Lake, California. Close Liaison is maintained with the Project Manager - Selected Ammunition to coordinate both USAMERDC's barrier and countermine programs.

Missiles Systems

(U) Joint activities and assistance to other military services and agencies engaged in by RDE elements during FY 1975 included the following:

JAC - Strategic Technology Panel - Joint Advisory Committee - chartered by DOD to assure that the facilities and programs at the Lincoln Labs are responsive to the needs of The Air Force, Army and Navy. The executive group and panels meet twice a year at Lincoln Labs to review the current and planned laboratory work.

JANNAF - Joint Army, Navy, NASA, Air Force Interagency Rocket Propulsion Committee - DOD chartered to assure proper dissemination of missile and gun propellant and propulsion information and to eliminate duplication of effort between services in rocket propulsion area of technology.

CPIA - Chemical Propulsion Information Agency which acts as the technical information center for JANNAF. This effort is funded mainly through each of the three services and NASA as well as by user charges for the services required.

TERMINAL HOMING DATA BANK - Terminal Homing provides information on all types of T/H data stored by users - such as Air Force, Army, Navy, Marines, and allied research units in the universities and industry.

JLCP - Joint Logistics Commanders Panel for High Altitude Supersonic Targets charged to provide a medium for study and correction of all problems in developing subject targets for Test and Evaluation use by the Army, Air Force, and Navy.

Tri-Service Air Defense Targets Annual R&D Conference - Provides information and interchange on all three services targets R&D programs.

Assistance to Civil Agencies

Research

(U) Although no direct assistance to civil agencies was provided, there is no doubt that much of the fallout of AMC Programs to the civilian sectors will be significant. Atmospheric and meteorological studies, Laser technology, human resources engineering, fuel cell technology to name but a few are typical examples.

(U) Perhaps the most important significant fallout to civil agencies is in the area of food and clothing. Not only is there the obvious direct benefit for these programs illustrated by protective clothing, the irradiated freeze dried and compressed foods, but there is also the less obvious uses which include rapid processing and bulk reduction of high protein foods and the reduction in spoilage by irradiation and freeze dry processes. Use of these systems for processing surplus foodstuff for feeding the indigent, food storage in civilian fallout shelters are among numerous other examples of potential civilian uses which can be contemplated.

Test and Evaluation

(U) An investigation covering ricochet of small arms projectiles was performed by AMC for the Federal Aviation Administration (FAA). The objective of the investigation was to acquire ricochet data for determining range safety areas and airspace requirements for small arms ranges. The resultant data was to be used by FAA to determine policy regarding usage of airspace over small arms ranges.

(U) Chemical-Biological. Inconspicuous protective garments furnished by the Law Enforcement Assistance Agency were evaluated at Edgewood Arsenal to assure their adequacy as body armor protection against pistol bullet threats. Projectiles for control of riots and civil disturbances, designed in the form of a ring airfoil (Soft/Sting Ray) have progressed rapidly in development. The M36 liquid riot control agent disperser (similar to the chemical mace) and the M33A1 dual agent disperser, whose modular construction permits the use of either dry or liquid riot control agent, have been type classified.

International Cooperative Programs

Research

(U) Fiscal Year 1975 saw an increase in cooperative research efforts with US Allies. These efforts were expanded as a result of earlier successes and in an effort to relieve the pressures of strained defense budgets. It was believed that research and development should be broadly based and move with vision making use of the talented minds and resources of our allies. Examples of some notable cooperative programs follow:

(U) Urban Warfare. FY 1975 witnessed a revised interest on the part of Army decision-makers in the field of Urban Warfare. Under the ABC program the US staffed and presented an approach to a TEAL directive for the Armies to study how to employ infantry at the Battalion level in the military operations in built-up areas (MOBA). The study proposal was formulated by the Research Division was agreed to by the AMC Armies, and is in progress. The goal of the effort is to standardize as much as possible in the line of MOBA forces, equipment, tactics, doctrine, training and requirements.

(U) Chemical Protective Clothing. By late 1974, development of an acceptable US CB chemical protective clothing system had not advanced beyond R&D stages. Meanwhile the UK Mark III suit had been developed which exceeded NATO requirements and was being employed by other NATO allies. A tripartite cooperative evaluation of the best US, UK and Canadian efforts are being exhaustively field tested later this year and will provide the US with a basis for decisions on which suit (or combination) to adopt for its total chemical protective clothing requirements.

(U) US/UK Fuel Cell Program. In order to attack the formidable barriers limiting fuel cell efficiency, the US and the UK collaborated in a cooperative research program during the past four years. The emphasis has been on the fundamental mechanisms involved in fuel cell electrochemistry. As a result of this cooperation, in which no funds are exchanged, AMC laboratories have determined that a savings of more than one million dollars has been realized in the Army program merely on the basis of avoiding duplication in the two countries. The program continues and it is expected that greater financial savings will be achieved.

(U) US/France Cooperative Program. A Data Exchange Agreement (DEA) has been established with France, which is oriented toward cooperation in the fundamental aspects of battery and fuel cell electrochemistry. The unique feature incorporated in this agreement is that specific tasks have been accepted by each government to complement the national program of the other. Extensive coordination has been achieved through a visit of the Army Project Officer to France during this period, which resulted in a detailed plan of the program to avoid duplication of efforts. The exposure to French National Activities in the development of fuels and power systems resulted in a very informative report of French National policies related to the energy crisis. A French group visited the US later in the year to finalize the details of the program.

(U) The nature of the French fuel cell work efforts selected as offering the most benefit to the US Army fuel cell program included: Studies on the influence of crystal orientation at electrode/electrolyte interfaces, processes of hydrocarbon oxidation and oxygen reduction in fuel cells and hydrogen storage equilibrium being carried out at the Centre National de la Recherche Scientifique (CNRS); studies of the catalytic behavior of metals deposited on mineral porous oxides with very high surface area being carried out by Professor Teichner at Lyon University; an effort on the mechanism of methanol catalytic conversion at the Institute Francais du Petrole (IFP) and; a number of other efforts in the battery area. In April 1975, reports were received from the French describing efforts on waterproofed air electrodes, improvement of the behavior of nickel-cadmium batteries in a heated state, optimization of the structural characteristics of catalysts based on phthalocyanines, elucidation

of the mechanism of the oxidation of methanol on platinum, electro-crystallization of zinc, porous mineral supports with dispersed metals or oxides, hydrogenation of ethylene on alumina after hydrogen spillover, and electrochemical studies of the oxidation of hydrocarbons and the reduction of oxygen in acid solutions.

(U) US/Japan Cooperative Program. A Data Exchange Program has been established with Japan in the area of fuel cell and battery technology in order to utilize results of the very broad Japanese programs in these areas and to capitalize, especially in fuel cells, on Japanese technology in micro-miniaturization which could prove valuable in improving the energy density of these systems. This cooperation has been formalized through a unique DEA which specifies particular tasks to be carried out in each country.

Foreign Science and Technology

(U) The Office of International Research and Development managed AMC participation throughout FY 1975 in cooperative foreign research, development, and standardization programs. Following are the highlights of activities and accomplishments under the above programs during FY 1975:

(U) Data Exchange Program - (DEA). A total of twenty new DEA's were effected during FY 1975, ten with the Republic of China, one with France, five with the Federal Republic of Germany, two with Israel, one with Japan, and one with The Netherlands. In addition, fourteen new DEA's are pending, two with Australia, one with France, four with the Federal Republic of Germany, one with Israel, three with Korea, two with Japan, and one with The Netherlands. At the end of FY 1975, AMC had monitorship of eighteen DEA's which involve sixteen countries. These DEA's require the participation of thirty-two AMC activities. Also, AMC participates in twenty-nine DEA's monitored by the US Navy and seventeen DEA's monitored by the US Air Force.

(U) Cooperative R&D Program. During FY 1975, six cooperative R&D projects were completed and four new projects established with a net change of sixteen active projects at the beginning of FY 1975 to fourteen at the end of FY 1975. In addition, ten new projects were under negotiation at the end of the year, with three additional projects approved by the Department of the Army. Several amendments to Memorandums of Understanding have been signed. In addition, an amendment to an MOU on Bridging in the 1980's is being prepared in lieu of a Phase 2 MOU.

(U) Development Sharing Program. During FY 1975, one development sharing project was completed of the five that existed at the end of FY 1975. This brought the total of active projects down to a total of four by the end of the year.

(U) Scientific and Engineer Exchange Program. During FY 1975, a total of twenty-seven Scientist/Engineers were assigned to AMC activities under this program. Twenty-one were representatives of the Federal Republic of Germany, and six from Korea. The cumulative total of Scientist/Engineers assigned to AMC activities since the program was initiated in 1964 is two hundred and sixteen, of which two hundred were Germans.

(U) NATO Programs. AMC participated in the activities of approximately 45 NATO Groups, Panels, and Working Parties. AMC representatives attended approximately one hundred meetings during FY 1975 related to NATO activities.

(U) ABCA (American-British-Canadian-Australian) Programs. AMC provided participating delegations to thirteen Quadripartite Working Group meetings. In support of TEAL XVIII, AMC nominated approximately two hundred and forty equipment items for either cooperative R&D or adoption by the other ABCA Armies. Twenty six reports for the AMC items selected by TEAL XVIII were provided by AMC to the other ABCA Armies. For the United Kingdom, Canada, and Australia items selected by TEAL XVIII, AMC provided fifty-one individual reports detailing the current US Army degree of interest.

(U) TTCP (The Technical Cooperative Program). The scope, structure, and mode of operation of TTCP was examined and as a result the number of Subgroups was reduced from seventeen to ten. In addition, organizational changes were made to insure that the manpower, travel funds and other resources would be limited to areas of high priority and mutual interest. Approximately fifty-five AMC representatives participated in TTCP meetings during FY 1975.

Troop Support

(U) NATO Panel IX (Engineering Equipment). The Technical Steering Committee (TSC) held seven meetings between December 1971 and April 1974 and two additional subgroups were formed: The International Structural Analysis Committee (ISAC) and the International Working Group of Military Bridge Designers (IWGMBD).

(U) In May 1974, the TSC recommended to the national authorities the development of a full family system of bridging equipment for the 1980s with the same basic structural elements used for the assault, dry and wet support roles. A Memorandum of Understanding for continuation of the collaborative development was being prepared by U.S. at the end of the Fiscal Year. The commander, TROSCOM, in coordination with TRADOC agencies, was responsible for formulating the AMC position. An AMC position was formulated for continuance of the program which was approved by DA on 28 February 1975. The Steering Committee formulated a Design and Analysis Group with representatives from each country to continue the work of the ISAC and IWGMBD.

Armament Systems

(U) Radiacs Data Exchange Agreements. Visits were made to Japan and Korea in connection with Data Exchange Agreements on Radiacs. At the 17th meeting at NATO AG/225, Panel VII (Nuclear-Biological-Chemical Defense) held at Brussels between 24-28 February 1975, the Nuclear Burst Detection System (NBDS) was discussed and the U.S. was asked to prepare a concept paper. Work continued with Great Britain on the cooperative Memorandum of Understanding (MOU) for the Personal Dosimeter DT-236 and Reader CP 606/UD. Under the MOU with Canada, four Advanced Development Models of the Fixed Installation Radiation Monitor Alarm System, AN/GHQ-3, were received.

(U) Chemical-Biological. The Sixth Meeting of the Quadripartite Working Group on Chemical and Biological Defense (QWG/CBD) was held in London, England, 5-9 May 1975. Dr. Bernard Berger, DAREA-DDE, was the principal U.S. member. A Draft for an MOU with Canada on the protective mask was initiated. Meetings were held with Canada on the MOU on Riot Control Agents, Materiel and Technology.

(U) Countermine and Barrier Programs. International Programs and Cooperation with Foreign Countries: In situ soil studies were conducted in conjunction with several NATO countries. In addition, close coordination with the UK and FRG is being maintained in several key mine detection areas.

CHAPTER IV

REQUIREMENTS AND PROCUREMENT

Introduction

(U) The mission of the Headquarters, AMC Director of Requirements and Procurement is to: direct and control the AMC logistics materiel management activities concerning requirements determination, budgeting, programming, procurement, rebuild, and disposal for all Procurement Appropriation funded major items; to direct and control the planning and execution of the AMC procurement and production mission which includes the development and implementation of plans, policy, programs, and procedures relating to AMC procurement and production management including procurement, contract pricing, contract financing, industrial preparedness, and production plus the Small Business and Labor Surplus Area Programs; and to provide the AMC staff with direction and guidance in support of the procurement and production process.

(U) The Director of Requirements and Procurement also serves as the program director for production base support and central procurement activities involving industrial preparedness and the Procurement Appropriation Program (major items). The Director also supervises the execution of such programs by the major subordinate commands and defends these programs to higher authority.

(U) Operating control is exercised over the US Army Production Equipment Agency, and the US Army Equipment Authorization Review Agency and the US Army Procurement Research Office. In addition, the Director heads a procuring activity for the US Military Academy, the US Army Korea Procurement Agency, the US Army Research Institute for the Behavioral and Social Sciences, The American Forces Radio and Television Service, and separate AMC installations and Activities. The Directorate of Requirements and Procurement serves as the office of primary responsibility for the Standard Integrated Support Management System (SISMS).

(U) The Implementation of the DOD Selected Acquisition Information and Management System (SAIMS) and its subsystems (less Selected Acquisition Reports) is also a responsibility of the Directorate. This directorate is also the office of primary responsibility and Chairman for the Executive Committee and Working Group of the Major Items Management System (MIMS) Functional Coordinating Group (FCG).

Plans and Programs

Materiel Policy and Guidance, Secondary Items, FY 1976

(U) On 19 September 1974, updated guidance regarding the computation of mobilization materiel requirements for secondary items, both Army Stock Fund items and items financed from Army appropriations, was furnished to the AMC Logistic Support Agency (ALMSA) and to the National Inventory Control Points (NICP's). The new instructions caused ALMSA to completely change ALPHA guidance which was completed on 13 June 1975 and found acceptable by tests accomplished between 15-25 June 1975.

Management of War Reserves

(U) In compliance with a Department of the Army (DA) request, during FY 1975, all unclassified policies and procedures on war reserves were removed from existing regulations and consolidated in one draft chapter of AR 710-1. The draft chapter 8 on Management of War Reserves implements the following: DOD Directive 3005.5, 4 Dec 74, subject: Criteria for Selection of items for War Reserves; DOD Directive 4140.2, 4 Dec 74, subject: Management of War Reserves; and DOD Instruction 4140.21, 31 Dec 74, subject: Management of War Reserves for Integrated Items Assigned to the Military Departments, the Defense Supply Agency and the General Services Administration. The proposed chapter 8, AR 710-1 was drafted and staffed worldwide. It is anticipated that the final draft of this regulation on management of war reserves will be forwarded to DA for approval and publication during 1st Qtr FY 76.¹

SB 700-40 War Reserve Stockage List (WARSL)

(U) This supply bulletin provides a consolidated list of war reserve stockage items authorized for worldwide use and is used as a basis for computing operational plans (OPLANS) and war reserves worldwide. The bulletin was completely revised, approved by DA, and published 16 January 1975. Items in support of Allies were excluded from SB 700-40. These were to be published as classified documents under separate cover.

1

Letter (a) DALO-SMS-R (Deputy Chief of Staff for Logistics) to Commander, USAMC, 15 January 1975, subject: Management of War Reserves (b) Letter, AMCRP-PS, HQS, USAMC to HQDA (DALO-SMS-R), 10 April 1975, subject: Management of War Reserves (c) Letter, DALO-SMS-R 418A (Deputy Chief of Staff for Logistics) to Commander, USAMC, 28 February 1975, subject: Management of War Reserves for Integrated Items Assigned to the Military Departments, the Defense Supply Agency and the General Services Administration (DODI 4140.21)

(U) SB 700-40 now contains approximately 2,900 line items reflecting a reduction of 77 lines since the previous edition dated 13 August 1973. Further reductions are anticipated in the number of line items in the next edition of the SB 700-40 currently being prepared.

NICP Management-Review-War Reserves

(U) During the period of September 1974 through June 1975, the USA Electronics Command (ECOM) and the General Materiel and Petroleum Activity (GMPA) were visited and reviews conducted on the management of war reserves. The reviews were made to determine if existing DA/AMC guidance and procedures were being followed.

(U) The war reserve programs reviewed consisted of:

- Theater War Reserve Levels;
- Computation of General War Reserve Requirements;
- War Reserve Stockage List (WARSL);
- Contingency Support Stocks (CONSSTOCS); and
- Operational Projects.

(U) There were no significant problem areas noted; however, a number of minor areas required separate actions and subsequent clarification before resolution. Restriction of travel funds precluded visits to other commodity commands during FY 75.²

Operational Projects

(U) In July 1974, an examination of worldwide operational projects was directed to Department of the Army as an effort to reduce projects to a minimum essential level without degrading the Army's capability to carry out national objectives and strategy. AMC was asked to review some 41 operational projects and provide recommendations relative to retention, cancellation, reduction, revision and/or consolidation of projects.³

2

See Annual Report of Major Activities, Directorate of Requirements and Procurement, FY 1975 in Historical Sources Documents of AMC Historical Office for actions required at ECOM and GMPA to purify management procedures regarding war reserves.

3

(a) Letter, DALO-PLO, Deputy Chief of Staff for Logistics to Commander USAMC, 28 June 1975, subject: Review of DA Approved Operational Projects-Worldwide; (b) DF AMCPA-M, Director of Plans and Analysis, HQS, AMC, to Directorate of Requirements and Procurement, ATTN: AMCPR-P and Directorate of Supply, 22 July 1974, Subject: Review of DA Approved Operational Projects-Worldwide.

(U) Chapter 2, Section IV, AR 710-1, published as C-9, contains policies, responsibilities, and procedures for initiating new (proposed) operational projects, and changes or revisions to existing (published) operational projects. Guidance relating to Prepositioning of Materiel Configured to Unit Sets (POMCUS) is also contained in Section IV of this chapter. In compliance with a Department of the Army request, the policies and procedures on operational projects together with all other unclassified war reserve policies and procedures, were to be removed from current regulations, updated, and consolidated in a separate chapter of AR 710-1. The proposed new chapter, chapter 8, entitled: Management of War Reserves, was staffed worldwide and was to be forwarded to the Department of the Army for approval and publication during the 1st quarter FY 1975.

(U) The combined efforts of AMC, ODCSOPS, and ODCSLOG in the reexamination of worldwide operational projects resulted in major changes. When action is completed 14 projects will have been revised, 11 projects cancelled, 2 projects replaced, 1 project consolidated and 1 project added. As of the end of FY 1975, 8 projects had been revised, 6 cancelled and 1 added.

Stock Status Reporting of Operational Projects

(U) AR 725-65 contained policies and procedures on stock status reporting of operational projects. In compliance with requirements to include all asset reporting in one regulation, the contents of AR 725-65 were updated and included in proposed chapter 6, AR 710-3. Major changes involved the inclusion of guidance relating to Prepositioning of Materiel configured to Unit Sets (POMCUS), and alterations in reporting criteria that would improve management controls at all levels. Tighter controls were being placed on removal of operational project stocks.

(U) The proposed chapter 6, AR 710-3 was being staffed within Headquarters, DA at the end of FY 1975. It was anticipated that it would be forwarded to the Adjutant General's Office for publication during the first quarter FY 1976.

Major Command Stockage Levels Worldwide, AR 11-11

(U) USAMC is responsible for computing the annual theater war reserve levels for the overseas commands. The recent inactivation of the United States Army, Pacific prevented that command's review and consolidation being accomplished. Consequently, it was recommended that AMC accomplish the consolidation for USARPAC.

(U) A conference was held on 25 September 1974 with representatives from AMC, USARPAC and other concerned commands and agencies in attendance. The transfer of responsibilities for the annual broadcast of Theater War Reserve Levels for the Eighth US Army, the US Army-Japan and the US Army Support Command was discussed with plans formulated.

(U) The method and the procedure for developing the theater war reserve levels were set forth. MIDA was given the responsibility of consolidating the war reserve levels as set forth during the discussions and in accordance with a Memorandum of Understanding issued 25 September 1974. The consolidated levels were furnished to the appropriate commanders on 15 January 1975.⁴

Capital Investments Opportunities Program

(U) The Capital Investment Opportunities program was established by direction of OSD and ASA(I&L) to take advantage of labor and dollar savings opportunities normally lost because of time consuming budgetary processes. Under this program, authority is issued to Army activities worldwide on a first come, first served basis for procurement of capital equipment. Such equipment must range in price from \$1,000 to \$100,000; costs under \$1,000 will be financed by O&MA funds and those over \$100,000 must be budgeted and programmed through normal channels. Additionally, equipment must be non-controlled, non-centrally managed, be self-amortizing within two years. The savings must be real, hard savings that can be reflected by off-sets in benefiting appropriations. Finally, savings must be auditable.

(U) TROSCOM was directed to issue and monitor the program authority amounting to \$2,000,000 out of "Items less than \$500,000" of Budget Activity 3 of the OPA account for FY 75. Monthly reports from TROSCOM indicated that 89 projects were financed during the year for a total of \$2,007,263. Additional program authority for the amount over \$2 million was approved by DA. It was planned to continue the program in FY 1976.⁵

Decrement to the FY 1975 Procurement Program

(U) In the second quarter of FY 75, DA recognized a serious, potential shortage of funds in the O&MA and MPA appropriations. For the most part, this shortage had been caused by the military and civilian pay raise which was effective 1 Oct 74. Accordingly, on 11 Oct 74, DA requested AMC recommended program reductions of \$210 million in the Procurement Appropriation (PA) and \$100 million in the RDTE appropriation.⁶

4

Memorandum of Understanding between, AMC, USARPAC, Eighth USA & USA Support Command, 25 Sep 74, subject: Broadcast of Theater War Reserve Levels.

5

Letter, DAMA-PPP-C, Office of the Chief of Research, Development & Acquisition, DA, to Commander, US Army Materiel Command, ATTN: AMCRP-PP, (22 Aug 1974), Subject: Capital Investments Opportunity Program.

6

(a) Message, DAMA-PPR to Commander, AMC, 11 October 1975, Subject: Reprogramming Action for FY 1975 (b) Memorandum, Office Chief of Research, Development and Acquisition, DA, various recipients, 11 October 1974, Subject: Instructions for Preparation of OCRDA Decrement Lists FY 75 & FY 76.

(U) Based on several listing of items from AMC along with items recommended by the DA staff, several Decrement listings were established. Effected items were listed in order of priority, that is, the lowest priority (or lowest essential) items were listed first. A list of 24 Oct 74 totalled \$217.6 million (in PA) and a revised list of 8 Nov 74 totaled \$152.4 million (PA). Ultimately, after considerable review, DA transferred \$60.5 million of PA to O&MA and \$12.1 million to Military Pay for a total decrement of \$72.6 million. However, most of this amount was later recouped by congressional approved reprogramming actions funded partly by transfer of free assets available through sale of items to foreign governments.

Customer Orders, Procedures and Reports

(U) The PEMA Executive Branch of the Requirements and Procurement Directorate participated in an AMC team study chaired by the Office of the Comptroller to review the total customer order process within AMC. The team concentrated its efforts upon the Procurement Appropriation area because of the high dollar value of the orders and a potential over-obligation problem at Department of the Army level.

(U) The highly involved and detailed study necessitated trips to AVSCOM, TROSCOM, ARMCOM, MICOM, TACOM and the International Logistics Center during which analyses were made of the operations of the Directorates of International Logistics and Materiel and the Comptroller. As a result of the study, briefings were given to the AMC command element involved and to DA. Recommendations were implemented to correct inconsistencies in processing of customer orders. Customer order control points were established in each command's Comptroller's Office. Also, a systematized approach was developed which would permit AMC to submit reconcilable FY 1975 year-end report. It was foreseen that the implemented recommendations would do much to preclude the possibility of reprogramming non-existent Augmentation Modernization (AM) funds which could lead to over obligation of procurement funds.⁷

Acquisition Management, Standard Integrated Support Management System, AMCR 700-97

(U) A requirement was established by the Joint Logistics Commanders (JLC) for expanding and revising the Standard Integrated Support Management System (SISMS). Subsequently, a Joint Service regulation was developed jointly by the four logistical commands: Army Materiel Command, Navy Materiel Command, Air Force Logistics Command, and Air Force Systems Command. The first increment of SISMS was published on 3 March 1975. The Joint Service Regulation number is AFLCR/AFSCR 800-24/AMCR 700-97/NAVMATINST 4000.38/MCO P4110.1A.

7

Letter, Deputy, CG, AMC to AMC Commodity Commands, AMCCP-F, 10 March 1975, Subject: Recording, Controlling and Reporting of Customer Orders-Army Procurement Appropriation.

Functional Coordinating Group (FCG) for Major Items Management Systems

(U) The Functional Coordinating Group (FCG) for Major Items Management Systems was established in May 1973. As of the close of FY 1975, the FCG was credited with tangible and intangible savings estimated at approximately \$20 million. The initial effort of the Major Items Functional Coordinating Group was to review the approved FY 1974 Plan of Action for the group and convert this general plan into specific tasks relating to more efficient management of major items as follows.

(U) Identification of Existing Major Items Management System. The National Inventory Control Points, HQ AMC directorates including Directorate of Requirements and Procurement divisions, Major Item Data Agency, Catalog Data Agency, Logistics Systems Support Agency, Maintenance Management Center, and the Equipment Authorization Review Agency all provide input data regarding major items management. This data was reviewed and stratified into the functional areas of assets, requirements, catalog and data management. The completion date was 15 December 1973. The Major Item Data Agency consolidated the data. This stratification provided a basic data base for other FCG tasks.

(U) Identification of Major Items of Equipment More Effectively Managed Under Secondary Items Techniques. The NICPs were directed to review their major items and identify candidate items to be placed under secondary items management techniques. As of 15 March 1975, 332 items had been identified. The delay in completing this task was caused by the lack of a DA definition and standard criteria for a Major Item. The criteria was developed by the FCG working group approved by the executive committee October 2, 1974. The Director of Requirements and Procurement, MG C. M. McKeen, Jr., sent a personal letter to the commanders of each Commodity Command inclosing the Major Item criteria and requesting each command to screen their major items against this criteria. Items not meeting the Major Item criteria were to be reported as candidates for conversion to secondary items. As of 30 June 1975, 5400 major items were reported as candidates. The target date for completion of the survey was 1 October 1975.

(U) In conjunction with this task, a strawman was developed to show the cost of managing an item by the National Inventory Control Point with results as follows: stock fund item---\$44.00/yr; PA secondary item---\$75.00/yr; and Major Item---\$4409/yr.

(U) Publication of Synthesis of Major Items Management Systems. This task was a joint work effort of the AMC Requirements and Procurement Directorate and the Army Logistics Management Center. The task was completed 1 March 1974 and AMCP 11-4, Army Major Items Management System, was published and distributed on 12 Jun 74. At the end of FY 1975, the Major Items Management System was not standardized at the NICPs. The pamphlet relies on flow charts, augmented by descriptive narrative to illustrate the interrelations of principal processes, systems and procedures of major item management as it is currently practiced (ammunition and

missiles excepted). This document was required as a text by ALMC Logistics Executive Development Course and as a guide for system improvements and standardization.

(U) Identification of Publications and Other Media Providing Information Pertaining to Major Items. The completion of this task was essential to an understanding regarding the impact of system changes upon publications. Input was solicited from the member agencies of the FCG. This task was completed 30 July 1974 with compilation a joint effort of the AMC Requirements and Procurement Directorate and the Equipment Authorization Review Agency.

(U) Major Item Management Systems Products and Data Elements. This was a joint effort of the AMC Requirements and Procurement Directorate, the Major Item Data Agency, and the Army Logistics Management Systems Agency. The purpose of this task was to identify input and output products; to analyze both the products and data elements; and to define, modify and consolidate these data elements as the first step towards system improvement and standardization. This task was started 30 March 1974 with a target date of June 75. This task was essentially completed on 15 June 75. The findings of this task resulted in a Program for Standardizing Major Item Data which was established as a continuing program. MIDA is the focal point for this program.

(U) Manual for Major Item Managers. The rationale for developing this manual was to provide policy, guidance and instructions to major item managers and to standardize the procedures for managing major items. The Army Logistics Management Center (ALMC) was tasked to develop the manual in January 1972. When ALMC failed to respond, the task was transferred to MIDA in February 1975. The first draft was completed, 30 Jun 75. The target date for completion was Dec 75.

Procurement

Request for Proposals (RFP) Procedures Tested

(U) During the conceptual phase of the life cycle, threat projections and technological forecasts are examined by using elements to determine operational capabilities, doctrine, organization and potential materiel systems that would improve the Defense Forces. Technical, military and economic bases for proposed systems and concept formulation are established through development and evaluation of military hardware. Critical technical issues, operational issues and logistical support problems are identified for resolution in subsequent phases in order to minimize future development risks.

(U) During the validation phase of materiel life cycle, necessary steps are taken to verify preliminary design and engineering, accomplish planning, analyse tradeoff proposals, resolve or minimize logistical

problems, prepare formal requirements documents and translate requirements documents into solicitation packages. Then, during the full scale development phase of the life cycle, the system, including all items necessary for its support, is fully developed and engineered, fabricated, tested. Following tests, a decision is made as to whether the system is acceptable to enter the inventory or not.

(U) Prior to entering the validation and/or full scale engineering development phase, it is appropriate to request Industry to review Request for Proposals (R P) packages and provide feedback prior to formal solicitation. Feedback from Industry during these phases is viewed as necessary to clarify work, reduce costs, and shorten administrative lead time.

(U) A Draft RFP test procedure was initiated by AMC in 1975. It indicated that RFP's may be issued to industry to secure comments as to the viability of the program provided that: a valid requirements document existed; a system is categorized as validation or full scale development and funded; lead time between Draft RFP solicitation, review and Industry comments is sufficiently planned to meet procurement and funding schedules; and the draft RFP is limited only to those elements which have cost reduction implications.

(U) Under the test conditions, the draft RFP is required to be announced in Commerce Business Daily, will not call for cost information, and solicitations will be limited to 30 - 45 days for response. The following is illustrative of desired feedback information that AMC hopes to receive: clarity of requirements, needs clearly stated in data package, special provisions conform to requirements, performance requirements within the state-of-the-art, any changes required, cost savings identified, work statements amenable for cost and performance analysis, cost reduction incentives clearly motivating, specifications and standards allied to requirements.

(U) As of the close of FY 1975, AMC was convinced that the procedure had merit. Comments from Industry indicated that in the limited test conducted, state-of-the-art requirements were changed in the RFP, schedules stretched out, and funding requirements changed to reflect more realistic funding requirements. It was planned to continue the RFP test into the next year.

Design to Cost

(U) The "Design to Cost" concept that was adopted by the Department of Defense in July 1971 evolved in the late 1960's as the costs of acquiring weapons systems sky-rocketed, and in most cases far exceeded original estimates. Various reasons were advanced regarding the escalation of costs such as inflation and holding down estimates to avoid congressional disapproval, yet it was believed that the weapons acquisition system needed overhaul. "Design to Cost" was implemented as a means for weapons systems management looking to control future acquisition, operating, and support costs of certain weapons systems.

Cost goals are established early in the acquisition cycle but specifically during the design and development phase. The cost goal becomes a specific number of constant dollars for a specified number of systems. The requirement for "Design To Cost" is clearly stated in the Request For Proposal (RFP) so that the contractor understands clearly the importance of the concept.⁸

(U) During FY 1975, there were three significant developments in the concepts of Design to Cost. First, the Secretary of the Army issued a policy statement which clearly indicated that Design to Cost meant a balancing of performance, schedule, and cost into an optimum combination. Second, the AMC Guide on Design to Unit Production Cost was finalized and published. This is an exhaustive and utilitarian coverage of Design to Cost Techniques. Third, DOD Directive 5000.28 on Design to Cost was published.

(U) In addition to formally expressing OSD policy on the subject for the first time, the above Directive expanded the concept to include Operating and Support (O&S) costs as well as Unit Production Cost. These issuances have extended the application to all new developments without exception unless specifically approved at very high levels.

US Army Procurement Research Office (PRO)

(U) The US Army Procurement Research Office (PRO), Fort Lee, Virginia, continues to pursue its primary mission of conducting research studies to improve Army-wide procurement management. Its ultimate goal is the evolution of more effective military procurement techniques for coping with existing and anticipated problems. On a consultation basis, the PRO assists in the implementation of approval innovations and in solving peculiar problems on current procurements.

(U) In September 1974, PRO was host to the Third DOD Procurement Research Symposium at the Army Logistics Management Center, Fort Lee, Virginia. Guest speakers included Mr. Hugh Witt, Deputy Associate Director and Assistant to the Director for Procurement Policy, Office of Management and Budget, and The Honorable Arthur I. Mendolia, Assistant Secretary of Defense (Installations and Logistics).

(U) Among those research studies completed and published by PRO during Fiscal Year 1975 were: The Application of Utility of Independent Government Cost Estimates, The Technical Data Package Improvement Preproduction Evaluation (PPE), An Analysis of the Army's Procurement of Non-personal Contractual Services with Emphasis on Housekeeping Services, Improvement of AMC Procurement Policy Procedures, and Forecasting Contract Administration Workload.

Procurement Support

(U) During FY 1975, the Procurement Support Branch of the Procurement Policy Division received and staffed 243 Determinations and Findings for Secretarial Approval under 10 U.S.C. 2304(a)11 and in addition provided review guidance and comment on 25 Determinations and Findings being staffed for approval under 10 U.S.C. 2304(a)14. In addition, the branch also received, staffed and obtained HPA approval on 11 R&D Army Procurement Plans (APPs) in accordance with the requirements of ASPR 1-2100 and provided staff review and guidance on an additional 15 procurement Appropriation supported Army Procurement Plans. Also, the branch received, staffed, and obtained AMC or DA approval on 9 requests to purchase foreign supplies under ASPR 6-103 and staffed 11 requests for providing facilities to contractors pursuant to ASPR 13-301.

(U) During the fiscal year 1975, a new format and procedures for Secretarial D&Fs were promulgated jointly by DA and AMC. The reduction in size and content of the supporting data and number of signatures required to obtain Secretarial Approval was the aim of the procedural system.

(U) In addition to the foregoing, the Procurement Policy Division provided ten representatives as permanent Army members on 14 standing ASPR subcommittees working on specific cases assigned by the ASPR committee; provided representatives for Procurement Review Board and Special AMC, DA, and DOD Ad Hoc Study Groups; reviewed and responded to 88 actions resulting from IG, AAA, and GAO reported findings and recommendations; and processed 126 requests for contracting officer appointments.

Procurement Volume and Trends

(U) Total procurement dollars awarded under contracts by the AMC purchasing offices during FY 1975 amounted to \$6.3 billion, an increase of \$1.7 billion over the value of awards during FY 1974 which amounted to \$4.6 billion. FY 1975 shows an upward trend which began in FY 1974 in the total value of procurement dollars awarded as compared to the years following the Southeast Asia conflict. In FY 1968, total value of awards was \$9.9 billion, decreasing to \$8.8 billion in FY 1969, \$6.1 billion in FY 1970, \$4.5 billion in FY 1971, increasing slightly to \$4.7 billion in FY 1972 and down again to \$4.5 billion in FY 1973. On a dollar basis, AMC procurements during FY 1975 accounted for 60% of total Army procurement dollars of \$10.4 billion, a significant increase from 57.3% for FY 1974.

(U) In terms of number of individual procurement actions awarded, total actions during FY 1975 (\$1.00 and over) amounted to 576,069 up from number of actions (566,871) awarded in FY 74. There were 24,514 procurement actions at a value of \$10,000 and over during FY 1975 compared to 20,203 in FY 1974.

Formal Advertising (FA)

(U) AMC procurements placed under contract through formal advertising (including two-step FA) during FY 1975 amounted to \$511 million which is \$60 million more than the value awarded on this basis during FY 1974. As shown below in the comparison of performance for the two years, formal advertising performance during FY 1975 produced a result of 10.5% of total dollars placed under contracts and increased from 9.7% in FY 1974.

(U) Comparison of Formal Advertising (FA) performance for both FY 75 and FY 74 follows:

	<u>Total Dollars Awarded (\$Mil)</u>	<u>Total Dollars Formal Adv (\$ Mil)</u>	<u>Percent FA</u>
FY 1975 (12 Mos)	\$4,843.0	\$510.9	10.5%
FY 1974 (12 Mos)	4,637.5	450.7	9.7%

(U) Actual AMC performance price competition for the year was 31.7%. Summary of competitive performance through four quarters of both FY 1975 and FY 1974 follows:

	<u>Total Dollars Awarded (\$Mil)</u>	<u>Total Dollars Comp (\$Mil)</u>	<u>Percent Comp</u>
FY 1975 (12 Mos)	\$4,843.0	\$1,532.9	31.7%
FY 1974	4,637.5	1,304.6	31.8%
FY 1975 Change	+ 205.5	228.3	- .1%

Procurement Workload Relating to Foreign Military Sales

(U) The following represents the volume of AMC Procurement workload for actions \$10,000 and over and a breakout of corresponding FMS from FY 1970 thru May of FY 1975:

<u>FY</u>	<u>ACTIONS (\$10,000 & Over)</u>	<u>DOLLARS (Thous)</u>
1975	\$ 24,514	\$5,941,533
1974	23,044	5,595,916
1973	23,247	5,268,940
1972	21,591	4,772,331
1971	21,961	4,555,725
1970	27,308	6,056,677

(U) The following represents the volume of Foreign Military Sales workload from FY 1970 thru May of FY 1975:

<u>FY</u>	<u>ACTIONS (Percent)</u>		<u>DOLLARS (Thous)</u>	<u>PERCENT</u>
1975	832	3.3	\$1,269,053	21.3
1974	658	2.8	1,083,943	19.4
1973	338	1.4	887,083	16.9
1972	259	1.2	152,568	3.2
1971	13	0.05	10,848	0.2
1970	16	0.05	1,886	0.03

(U) The following charts indicate the entire volume and dollar value of AMC procurements for the entire FY 1975.⁹

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Letter, AMCRP-SO to Selected AMC installations 12 August 1975,
Subject: Volume and Dollar Value of AMC Procurement Actions by Purchasing
Offices, Entire FY 1975, signed Charles Scott.

US ARMY MATERIEL COMMAND
VOLUME AND DOLLAR VALUE OF PROCUREMENTS - ENTIRE FY 1975
(\$ THOUSANDS - INCLUDES INTRA-GOVERNMENTAL & FMS)

	PURCHASING OFFICE	CODE	ACTIONS UNDER \$10,000			ACTIONS \$10,000 AND OVER			TOTAL ACTIONS	
			NUMBER	VALUE		NUMBER	VALUE		NUMBER	VALUE
1.	PROC. DIV, ARMCOM	AA-09	3,101	7,728		1,960	1,251,389		5,061	1,259,117
2.	PROC DIV, MICOM	AH-01	12,331	24,228		3,617	1,173,190		15,948	1,197,418
3.	PROC DIV, AVSCOM	AJ-01	6,290	14,606		2,970	710,147		9,260	724,753
4.	PROC DIV, TACOM	AE-07	17,847	26,487		4,049	1,142,621		19,900	879,807
5.	FT MONMOUTH PROC DIV (ECOM)	AB-07	40,396	43,531		2,339	555,022		42,735	598,553
6.	MARYLAND PROC DIV (ECOM)	AB-03	18,934	15,950		1,816	209,447		20,800	225,397
7.	NATICK DEV CENTER	AG-17	10,630	2,889		101	3,771		10,731	6,660
8.	FRANKFORD ARSENAL (ARMCOM)	AA-25	11,419	11,012		737	151,708		12,156	162,720
9.	MOBILITY EQUIP R&D CTR	AG-53	8,769	5,673		711	69,695		9,480	75,363
10.	PICATINNY ARSENAL (ARMCOM)	AA-21	15,562	6,420		551	92,934		16,113	99,354
11.	PROC DIV, TROSCOM	AK-01	1,776	2,901		259	127,475		2,035	130,376
12.	ABERDEEN PROV GD (TECOM)	AD-05	41,158	18,596		512	25,182		38,818	35,059
13.	PURCHG & CONTRG DIV (MICOM)	AH-03	35,177	19,418		812	31,558		35,989	50,976
14.	WHITE SANDS MSL RGE (TECOM)	AD-07	23,741	7,972		323	30,868		24,064	38,840
15.	HARRY DIAMOND LABS	AG-39	9,260	4,752		297	28,380		9,557	33,132
16.	ARMY RESEARCH OFFICE	HC-04	593	1,855		88	3,110		681	4,965

US ARMY MATERIEL COMMAND
VOLUME AND DOLLAR VALUE OF PROCUREMENTS - ENTIRE FY 1975
(\$ THOUSANDS - INCLUDES INTRA-GOVERNMENTAL & FMS)

	<u>PURCHASING OFFICE</u>	<u>CODE</u>	<u>ACTIONS UNDER \$10,000</u>		<u>ACTIONS \$10,000 AND OVER</u>		<u>TOTAL ACTIONS</u>	
			<u>NUMBER</u>	<u>VALUE</u>	<u>NUMBER</u>	<u>VALUE</u>	<u>NUMBER</u>	<u>VALUE</u>
17.	EDGEWOOD ARSENAL (ARMCOM)	AA-15	10,243	4,557	318	51,676	10,561	56,233
18.	SACRAMENTO ARMY DEPOT	AG-08	19,416	9,541	488	30,225	19,904	39,766
19.	WATERVLIET ARSENAL (ARMCOM)	AA-22	10,281	6,043	375	42,647	10,656	48,690
20.	AIR MOBILITY R&D LABS (AVSCOM)	AJ-02	18	96	166	17,020	184	17,116
21.	WASHINGTON PROC OFC (ECOM)	AB-09	1,169	594	165	19,346	1,334	19,940
22.	GRANITE CITY SUPT ACTY (AVSCOM)	AJ-04	35,352	15,335	151	4,191	35,503	19,526
23.	ROCK ISL ARSENAL (ARMCOM)	AA-08	19,697	7,045	244	10,933	19,941	17,978
24.	TOBYHANNA ARMY DEPOT	AG-38	28,657	14,213	181	6,691	28,830	20,904
25.	NEW CUMBERLAND ARMY DEPOT	AG-36	17,407	7,392	164	9,019	17,571	16,411
26.	LEX-BLUE GRASS ARMY DEPOT	AG-22	11,603	3,730	121	4,606	11,724	8,336
27.	RED RIVER ARMY DEPOT	AG-47	22,560	7,522	157	7,634	22,717	15,156
28.	LETTERKENNY ARMY DEPOT	AG-34	10,795	4,333	165	7,419	10,960	11,752
29.	TAIWAN MAT'L AGY (AMC)	AG-50	1,703	1,413	68	1,473	1,771	2,886
30.	MATLS & MECH RESEARCH CTR	AG-46	5,041	1,685	98	8,678	5,139	10,363
31.	TOOELE ARMY DEPOT	AG-49	29,720	5,746	92	4,122	29,812	9,868

CHART 2

US ARMY MATERIEL COMMAND
VOLUME AND DOLLAR VALUE OF PROCUREMENTS - ENTIRE FY 1975
(\$ THOUSANDS - INCLUDES INTRA-GOVERNMENTAL & FMS)

	<u>PURCHASING OFFICE</u>	<u>CODE</u>	<u>ACTIONS UNDER \$10,000</u>			<u>ACTIONS \$10,000 AND OVER</u>			<u>TOTAL ACTIONS</u>	
			<u>NUMBER</u>	<u>VALUE</u>	<u>NUMBER</u>	<u>VALUE</u>	<u>NUMBER</u>	<u>VALUE</u>	<u>NUMBER</u>	<u>VALUE</u>
32.	CORPUS CHRISTI ARMY DEPOT	AG-48	6,725	3,406	74	2,966	6,799	6,372		
33.	PINE BLUFF ARSENAL (ARMCOM)	AA-03	4,717	1,454	81	6,787	4,798	8,241		
34.	YUMA PVG GRD (TECOM)	AD-01	9,619	3,068	58	1,969	9,677	5,037		
35.	ANNISTON ARMY DEPOT	AG-02	11,473	4,517	65	3,736	11,538	8,253		
36.	DESERET TEST CTR (TECOM)	AD-09	10,299	3,706	56	1,696	10,355	5,402		
37.	PUEBLO ARMY DEPOT	AG-12	10,149	1,763	39	1,613	10,188	3,376		
38.	SHARPE ARMY DEPOT	AG-10	9,473	1,934	39	2,418	9,512	4,352		
39.	ROCKY MTN ARSENAL (ARMCOM)	AA-05	5,723	2,424	58	2,845	5,781	5,269		
40.	JEFFERSON PVG GRD (TECOM)	AD-03	3,113	903	14	452	3,127	1,355		
41.	RADFORD AMMO PLT (ARMCOM)	AA-27	19	63	0	0	19	63		
42.	AMC FIELD SAFETY AGY	AG-13	132	15	1	22	133	37		
43.	LAKE CITY AMMO PLT (ARMCOM)	AA-19	10	5	1	42	11	47		
44.	AMC PROJECT MANAGER SANG MOD PROGRAM	AG-99	-	-	21	87,920	21	87,920		
	GROSS TOTAL AMC		551,555	324,666	24,514	5,941,533	576,069	6,266,199		
	LESS INTRA-GOVT, FMS		36,814	45,466	3,213	1,377,738	40,027	1,423,204		
	NET PROCUREMENTS		514,741	279,200	21,301	4,563,795	536,042	4,842,995		

CHART 3

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SUMMARY BY AMC COMMANDS
VOLUME AND DOLLAR VALUE OF PROCUREMENTS - ENTIRE FY 1975
 (\$ THOUSANDS - INCLUDES INTRA-GOVERNMENTAL & FMS)

<u>COMMAND</u>	<u>ACTIONS UNDER \$10,000</u>		<u>ACTIONS OVER \$10,000</u>		<u>TOTAL ACTIONS</u>	
	<u>NUMBER</u>	<u>VALUE</u>	<u>NUMBER</u>	<u>VALUE</u>	<u>NUMBER</u>	<u>VALUE</u>
ARMCOM	80,772	46,751	4,325	1,610,961	85,097	1,657,712
AVSCOM	41,660	30,037	3,287	731,358	44,947	761,395
ECOM	60,549	60,075	4,320	783,815	64,869	843,890
MICOM	47,508	43,646	4,429	1,204,748	51,937	1,248,394
TACOM	17,847	26,487	4,049	1,142,621	21,896	1,169,108
TECOM	87,930	34,245	963	60,167	88,893	94,412
TROSCOM	15,254	8,281	719	176,336	15,973	184,617
ALL OTHERS	200,035	75,144	2,422	231,527	202,457	306,671
TOTAL AMC	551,555	324,666	24,514	5,941,533	576,069	6,266,199

CHART 4

AMC Procurement Performance, (FY 1975)

(U) The AMC Procurement performance for FY 1975 compared with the past five fiscal years was as follows:¹⁰

Price Competition
(Percent of total procurement dollars*)

	<u>FY 71</u>	<u>FY 72</u>	<u>FY 73</u>	<u>FY 74</u>	<u>FY 75</u>
Army	36.1	36.5	34.1	33.5	41.8
AMC	39.2	38.3	31.8	28.1	31.7

Formal Advertising
(Percent of total procurement dollars*)

Army	16.5	15.0	14.7	12.5	16.9
AMC	19.8	16.9	13.7	9.7	10.5

Small Business
(Percent of total procurement dollars*)

Army	18.1	19.8	22.5	26.0	20.5
AMC	12.3	15.1	16.8	17.5	18.1

*All procurement actions \$1.00 and over (DD 1057 and DD 350)

AMC Procurement Performance Against Assigned Goals by Command Activity
FY 1975

(U) The AMC performance against assigned goals by command or activity for the period July 1974 through June 1975 comparing all categories of funds, excluding intergovernmental and foreign military sales were as follows:¹¹

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Letter AMCRP-SO to selected AMC addressees, 6 August 1975,
subject: AMC Procurement Performance July 1974--June 1975 (FY 1975),
signed, E. H. Seideman.

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Ibid.

AMC PERFORMANCE AGAINST ASSIGNED GOALS BY COMMAND/ACTIVITY - FY 1975
(ALL CATEGORIES OF FUNDS - EXCLUDES INTRAGOVERNMENTAL & FMS)

AMC REPORTING OR REQUIRING COMMAND	Price (1) Competition (%)		Formal (1) Advertising (%)	
	Actual FY 75	FY 75 GOALS	Actual FY 75	FY 75 GOALS
ARMCOM	35.7	35.0	10.2	10.0
AVSCOM	12.3	8.5	5.3	3.0
ECOM	21.7	24.0	1.7	5.0
MICOM	30.3	17.0	1.2	4.0
TACOM	42.9	39.0	25.7	28.0
TECOM	27.8	26.0	5.6	7.0
TROSCOM	45.3	45.0	16.4	20.0
OTHER (2)	36.7	XXX (2)	6.3	XXX(2)
TOTAL AMC	31.7	32.0	9.6	12.0

Note: (1) Based on Procurement Actions \$1.00 and over (DD 350 & DD 1057) reported by the activity and its subordinate purchasing offices, if any.

(2) Performance reported - formal goals not assigned.

CHART 5

(U) The AMC competitive vs non-competitive procurement for FY 1975 was as follows:

\$1.00 AND OVER (IN THOUSANDS) - EXCLUDES INTRAGOVERNMENTAL & FMS

PRICE COMPETITION

NON-COMPETITIVE

REPORTING COM'D OR ACTIVITY	Total Value Awards*	/ 2-Step Formal Adv'tg	Other Formal Adv'tg	Negot Price Compet	Total/ Price Compet	% Price Compet	/ Design Tech'n'l Other Compet		Follow-on After: Price Compet		Design Tech'n'l Other	Other Non- Competitive
ARMCOM	1,330,304	136	136,344	338,183	474,663	35.7	39,890	8,850	40,680	766,221		
AVSCOM	510,694	368	27,033	35,472	62,873	12.3	104,567	3,476	31,020	308,758		
ECOM	765,551	3,089	12,959	148,498	164,546	21.7	144,420	33,025	75,610	338,950		
MICOM	903,973	18,617	10,910	244,550	274,077	30.3	26,020	23,481	220,553	359,842		
TACOM	906,692	19,734	232,723	136,269	388,726	42.9	62,658	1,721	18,372	435,215		
TECOM	78,826	783	4,437	16,684	21,904	27.8	16,688	268	2,202	37,764		
TROSCOM	180,769	2,400	29,732	49,711	81,843	45.3	8,525	2,800	6,917	80,684		
OTHER PROC ACT	175,213	621	11,089	52,588	64,298	36.7	11,324	1,708	5,776	92,107		
AMC TOTAL	4,843,022	45,748	465,227	1,021,955	1,532,930	31.7	414,092	75,329	401,130	2,419,541		

Note: *Based on procurement actions \$1.00 and over, (DD 350 & DD 1057) reported by the activity and its subordinate purchasing offices, if any.

(U) The small business procurement program for FY 1975 was as follows:¹³

SMALL BUSINESS PROGRAM
ARMY MATERIEL COMMAND

FISCAL YEAR 1975

(Dollars in Thousands)

Total Procurement Awards to Business Firms

<u>COMMAND</u>	<u>TOTAL ALL BUS * AWARDS (\$)</u>	<u>TOTAL SM BUS AWARDS (\$)</u>	<u>PERCENTAGE ACTUAL</u>	<u>OBJECTIVE (%)</u>
ARMCOM	1,314,344	269,002	20.5	17.6
AVSCOM	507,288	53,968	10.6	6.0
ECOM	739,538	141,655	19.2	20.0
MICOM	895,136	92,619	10.3	8.0
TACOM	879,807	114,781	13.0	13.5
TECOM	73,302	26,632	36.3	38.0
TROSCOM	169,341	85,264	50.4	39.0
OTHER	166,368	73,712	44.3	38.4
TOTAL AMC	4,745,124	857,633	18.1	15.8

*Excludes non-profit institutions and outside US.

¹³Ibid

Industrial Management

Rotary Forge

(U) During FY 1975, several rotary forge papers and briefings were presented by AMC to various Department of Army levels and Assistant Secretary of Defense (I&L) supporting the installation of the rotary forge at Watervliet Arsenal, rather than at Cabot Corporation's Pampa, Texas plant. In a memorandum dated 18 March 1975, the Assistant Secretary of Defense (I&L) granted the Department of Army authority to proceed with installation of the Rotary Forge at Watervliet. Installation was completed at the end of the fiscal year.

Energy Utilization

(U) During FY 1975, the Project Manager for Munitions Production Base Modernization and Expansion initiated an energy management program to establish manufacturing methods and technology in the area of process energy utilization which should lead to plant self-sufficiency during mobilization. AMC has submitted the first project effort to Department of Army as a late start FY 1975 effort for \$200,000. AMC has given the go-ahead on a cohesive 5-year plan for a total \$7,210 million in support of this effort.

Black Powder

(U) In November, a Black Powder Plant construction contract was awarded which, when completed at Indiana Army Ammunition Plant, will provide this country the only government-owned capability to produce this explosive mixture. Black Powder is used as an igniter for propulsion systems in medium and large caliber munitions and missile and rocket systems.

TNT

(U) The first completely automated (direct digital control) continuous TNT production facility became operative in FY 1975. In the initial operating period, 25 November - 2 December 1974, more than 20,000 pounds of TNT meeting military specifications were produced.

Mississippi Army Ammunition Plant

(U) In July 1974, Senator John C. Stennis announced that the Department of Army planned to construct a new Army ammunition plant at the NASA location in Mississippi. The initial project was funded in the FY 1975 program to conduct preliminary engineering and environmental studies. Mississippi Army Ammunition Plant will be an integrated facility involved in the production of metal parts and loading, assembling, and packing of the improved conventional munition (ICM) M483 system.

PEP Packages

(U) The mission of Project Manager-Production Base Modernization (PM-PBM) was expanded to include management of the modernization of government owned equipment (Plant equipment packages, PEP's) located in the private sector of the munitions production base. The first of these efforts was a \$1.9 million project funded in the FY 1975 budget for modernization of production equipment at National Presto Industries, the sole current producer of 105mm, M1 HE metal parts.

Production Base Support Program

(U) The following is a comparison of the PBS Program contained in the Army's FY 1975 Apportionment and the year end AMC program for FY 1975:

<u>PBS CODE/APPROPRIATION</u>	<u>EXHIBIT P-1 1 Jun 1974</u>	<u>AMC ADJUSTED PROGRAM 30 Jun 1975</u>	<u>INCREASE DECREASE</u>
1490 Aircraft	4.3	4.3	0
2590 Missiles	5.5	4.5	-1.0
3190 Tracked Combat Veh	2.6	16.4	13.8
3290 Weapons & Other Combat Vehicles	14.4	10.6	-3.8
Subtotal Weapons & Tracked Combat Vehicles	(16.0)	(26.6)	(10.6)
4910 Ammo Prod Ind Fac	238.5	267.4	28.9
4920 Ammo Layaway Ind Fac	14.0	10.0	-4.0
4930 Ammo Prod Engr Measures	37.5	38.3	.8
Subtotal Ammunition	(290.0)	(315.7)	(25.7)
5190 Tact & Sup Veh	1.8	2.3	.5
5290 Comm/Elec	5.0	9.1	4.1
5390 Other Support	14.4	19.3	4.9
Subtotal Other Proc	<u>(21.2)</u>	<u>(30.7)</u>	<u>(9.5)</u>
TOTAL FY 1975 PBS	338.0	382.2	44.2

Missiles

(U) As a result of a decrement the missile program was reduced to \$3.8 million. Subsequent to the decrement, funds were reprogrammed from end items, TOW and LANCE, which increased the Production Engineering Measures portion of the PBS by \$.7 million.

Tracked Combat Vehicles

(U) The increase to this program was primarily to finance a second source of heavy armor castings.

Weapons and Other Combat Vehicles

(U) This activity was decreased as a result of decrement by OSD.

Ammunition

(U) Provision of Industrial Facilities (PIF) Reprogramming of hardware funds was required to finance late starts and cost growths for PIF projects.

Layaway of Industrial Facilities (LIF) Based on poor obligational performance of FY 1973 and FY 1974 funds the HAC reduced LIF to \$10.0 million.

Production Engineering Measures (PEM) A reprogramming action transferring \$.990 million from hardware was used for MMT: High Sensitive, Fast Response Monitor.

Tactical & Support Vehicles

(U) This program was increased from \$1.8 million to \$2.3 million. The funds were generated from hardware items.

Communications/Electronics

(U) AMC reprogramming action from hardware items increased this program to \$9.1 million.

Other Support

(U) This program was increased to \$19.3 million of which \$2.7 million was released to TROSCOM for a late start MCI project: Air Cushion Vehicle. In FY 1975, the responsibility for budget formulation of Industrial Preparedness Operations was transferred to AMC Industrial Management Division --AMC Procurement Division. This program was approximately \$46.0 million in FY 1975 and FY 1976 and is projected to exceed \$55.0 million in FY 1977.

RAMP Study

(U) A Review of Army Mobilization Planning (RAMP) was initiated in Jan 1975 as requested by the Secretary of the Army. The purpose of the Review was to conduct a comprehensive analysis of the US Army Industrial preparedness program reasonably reflecting present day conditions regarding responses to peacetime and emergency requirements. The final study report was completed and forwarded to the Secretary of the Army in July 1975.

Army Industrial Preparedness Program (AIPP)

(U) The Industrial Management Division revised Army Regulation AR 700-90, Army Industrial Preparedness Program. A final draft was forwarded in January 1975 to higher echelon for review and subsequent publication. This regulation integrates all the industrial production activities of the AIPP. It prescribes policies and procedures governing the program and furnishes guidance for managing specific elements of the program.

Army Standing Committee for Readiness of Army Materiel (SCRAM)

(U) SCRAM was established 28 Jan 75 within Headquarters, AMC to develop and maintain a staff planning entity to address accelerated acquisition and/or increased production of selected key major items. Twelve (12) end items were initially selected for intensive study along with a Depot Maintenance Data Sheet.

Test and Rehabilitation Facilities

(U) During FY 1975, the Industrial Management Division was instrumental in achieving approval for two (2) test and rehabilitation sites for industrial plant equipment at Lima Army Modification Center and Seneca Army Depot.

Industrial Management Documentation

(U) Documentation performance included a revision to Army Regulation AR 700-43, Defense Industrial Plant Equipment Center (DIPEC) Operations, and Department of Defense, DOD Manual 4005.3M, Industrial Preparedness Planning.

Cost Performance Reporting

Progress in Measurement Accomplishments

(U) The number of management systems accepted as meeting the Cost/Schedule Control Systems Criteria (C/SCSC) as a result of AMC-led reviews increased from 38 to 54 during the fiscal year. At the end of the fiscal year, 28 other C/SCSC management system applications were in various stages

of the implementation process. The total of 54 acceptances at the fiscal year end included 7 relating to in-house applications and 3 to Government Owned-Contractor Operated (GOCO) Plants.

Training and Orientation

(U) AMC has continued to support the four F/SCSC training courses conducted by the Army Management Engineering Training Agency (AMETA), Air School (DSMS). This support involves soliciting and screening applicants, review and advice concerning course content, and presentations and panel participation during classes. Also, the AMC Cost Performance division provides representatives to participate in all known industry/government meetings and seminars on the subject of C/SCSC.

Procurement Management Review

Major Mission Accomplishments

(U) A procurement management review was performed which developed reports relative to the procurement operations of the US Army Pacific. The PMR was performed at all US Army Procurement activities in the Pacific. This included the staff element of HQ, USARPAC and six procurement agencies and activities in Hawaii, Japan, Korea, Okinawa, Thailand, and Vietnam. A total of 61 recommendations and 86 suggestions were made.

(U) A procurement management review was performed which developed reports relative to the procurement operations of the US Army Aviation Systems Command, that included 28 recommendations and 18 suggestions.

(U) A procurement management review was performed which developed reports relative to the procurement operations of the US Army Tank-Automotive Command, that included 22 recommendations and 22 suggestions.

(U) A procurement management review was performed which developed reports relative to the procurement operations of the US Army Armament Command, that included 10 recommendations and 36 suggestions.

(U) A procurement management review was performed which developed reports relative to the procurement operations of the US Army Electronics Command, that included 19 recommendations and 19 suggestions.

(U) A special functional PMR was conducted throughout AMC's MSCs relative to management of engineering services contracts and appropriate followup review conferences.

(U) A procurement management review was performed which developed reports relative to the procurement operations of the US Air Mobility R&D Laboratory, that included 12 recommendations and 7 suggestions.

(U) A contract administration management review was performed which developed reports relative to the contract administration operations of Joliet Army Ammunition Plant, that included 28 recommendations and 11 suggestions.

(U) A procurement management review was performed which developed reports relative to the procurement operations of the US Army Picatinny Arsenal, which included 18 recommendations and 8 suggestions.

(U) A procurement management review was performed which developed reports relative to the procurement operations of the US Army Frankford Arsenal, which included 6 recommendations and 8 suggestions.

(U) A procurement management review was performed which developed reports relative to the procurement operations of the US Army Watervliet Arsenal, which included 14 recommendations and 4 suggestions.

(U) A special procurement management review was performed of the procurement operations of the US Army Military Academy at West Point, and a report was to be prepared which would include several recommendations and suggestions.

(U) A procurement management review was performed which developed reports relative to the procurement operations of the US Army Harry Diamond Laboratories, which included approximately 20 recommendations and 15 suggestions.

(U) A procurement management review was performed which developed reports relative to the procurement operations of the Defense Supply Support Washington, which included approximately 9 recommendations and 13 suggestions.

Communications/Aviation/Missiles Procurement

Communications, Aviation, and Missiles Division Organized

(U) Effective 30 June 1975, Air Systems Division was reorganized and redesignated as the Aviation Branch of the Communications, Aviation, and Missiles Division. Simultaneously, two other divisions, Communications and Missiles, were redesignated as branches and merged with the Aviation Branch to form the Communications, Aviation and Missiles Division, Directorate of Requirements and Procurement, HQS, AMC. Prior to this reorganization, Air Systems Division consisted of the Avionics Branch and the Aircraft Systems Branch. The Aircraft Systems Branch was redesignated the Aviation Branch and assumed the functions of the Avionics Branch which was abolished. No manpower spaces were transferred with the functional responsibility to the Aviation Branch.

AH-1 Cobra Program

(U) In November 1974 a TRADOC Special Study Group (SSG) called Priority Aircraft System Suitability Intensive Review (PASS In Review) was established at Fort Rucker to determine the optimum configuration for the AH-1 fleet. Results of this Group will be presented to DA in September 1975. Four AH-1G losses were realized in FY 1975 reducing the inventory to 741.

Procurement Actions

(U) The following procurement actions were effected during FY 1975:

RFP DAAJ01-75-C-0560 to AVCO Corporation for the procurement of 186 T53L13B turbine engines, remanufactured from GFE T53L11B, was released in May 1975.

RFQ DAAJ01-75-Q-0302 to Bell Helicopter Company was released in April 1975. This document requested 2 options: One for a total buy of 44, and one for an initial buy of 6 (FY 1975 Program) with an option quantity of 38 (FY 1976 Program).

(U) A contract award was made to Kaman Aerospace Corporation, Bloomfield, Connecticut on 1 May 1975 in the amount of \$4,775,543. This contract covers a new main rotor blade. It is unique since it is the first time a helicopter dynamic component is being procured competitively by other than the prime manufacturer. The contractor will develop and qualify a composite blade for the COBRA, produced by Bell Helicopter Company. The contract covers a design to unit cost of \$8,000 per blade (FY 74 constant dollars).

(U) An engineering contract to redesign and produce 12 prototype landing gear assemblies was awarded to Bell Helicopter Company in May 1975. These prototypes will be available in November 1975 for field testing. The value for this effort was \$50,000.

(U) Engineering contracts to redesign the cockpit and low glint canopy for production aircraft were awarded to Bell Helicopter Company in March 1975. The new items will be incorporated in the first AH-1S buy. The total value of these contracts at the close of the fiscal year was \$2,594,000.

Million Dollar Awards

(U) The following million dollar awards were effected during FY 1975:

(U) An option quantity of 189 AH-1G to AH-1Q COBRA configuration was assumed on 16 December 1974 for \$54,246,086 with the Bell Helicopter Company as contractor.

(U) A depot maintenance contract for 31 AH-1G (mod 24 to DAAJ01-74-C-0122) was awarded to Bell Helicopter Company on 10 January 1975 at a value of \$1,548,805.

(U) A repair parts procurement contract for the XM65 missile subsystem (A401-74-A-0030) was awarded to Hughes Aircraft Company on 13 January 1975. The value of this effort was \$2,218,124.

(U) A Long Lead Time effort for incorporation of ICAM (Improved Cobra Agility and Maneuverability) was awarded to Bell Helicopter Company on 31 January 1975. At a value of \$4,095,000.

(U) A Long Lead Time contract for 153 sets of T53L703 turbine engines was awarded to AVCO Corporation, Lycoming Division on 10 March 1975. The value of this contract was \$2,827,623.

(U) A contract for turbine rotor blades (34,275) for the T53 engine was awarded to AVCO Corporation, Lycoming Division on 13 June 1975 at a value of \$1,657,881.

(U) A contract for procurement of 72 T53L703 modification kits was awarded to AVCO Corporation, Lycoming Division on 23 June 1975 at a value of \$2,232,000.

(U) A compensated canopy for AH-1 helicopter contract was awarded to Bell Helicopter Company on 30 June 1975 at a value of \$1,500,000.

Low Reflective vs Camouflage Paint

(U) After extensive lab and field testing, TRADOC was advised that all tactical aircraft should be painted with low reflective IR paint. In April/May 1975, following additional user tests at Fort Rucker to evaluate the effectiveness of the recommended vs camouflage paint patterns, TRADOC supported the AMC position. A recommended program for world wide implementation is planned to commence in the 2d Qtr, FY 1976.

AH-1Q COBRA Configuration

(U) A type classification In Process Review (IPR) for the AH-1Q was held on 10 June 1975. Limited Procurement (LP) was approved. The first AH-1G for conversion to AH-1Q was inducted into the Amarillo facility on 19 February 1975. Initial production delivery of the AH-1Q against contract J01-74-C-0122 was accomplished on 10 June 1975.

AH-1 COBRA Requirements for FY 1975

(U) Army Procurement Appropriations (APA) requirements to support the AH-1 COBRA for FY 1975 were as follows:

New procurement	\$15,000,000
Mod/Retro	81,175,000
Secondary Items	8,627,000
TOTAL	<u>\$104,802,000</u>

Should Cost Team

(U) A Should Cost Team for Bell Helicopter Company commenced operations in June 1975. The findings of the team are to support future negotiations for the new production aircraft.

AH-1J Program (US Navy Procurement)

(U) The following million dollar awards were effected during FY 1975 for the AH-1J being procured for the US Navy:

An incorporation of ECP 712R2 (Improved Sea Cobra) contract was awarded to Bell Helicopter Company on 6 March 1975 with a value of \$5,932,389.

An incorporation of ECP 712R1 and R2 and 825R1 contract was awarded to Bell Helicopter Company on 27 June 1975 with a value of \$2,145,382.

Air Systems Procurement Programs

(U) The Aviation Branch, Communications, Aviation and Missiles Division executed the FY 1975 Army Procurement Appropriations (APA) (PEMA) program totaling approximately \$453M spread over four commands plus procurement for the Synthetic Flight Trainer 2B24 made through the Naval Training Device Agency (NTDA) at Orlando, Florida. The Program Distribution was as follows:

	<u>FY75 (Army)</u>	<u>Total (Incl Cust & C/O)</u>	<u>Obligations a/o 30 June 75</u>
AVSCOM	176.1	351.9	276.6
ECOM	36.0	66.3	48.6
ARMCOM	2.1	14.1	11.4
MICOM	5.7	9.3	7.4
NTDA	<u>11.0</u>	<u>11.0</u>	<u>11.0</u>
TOTAL	230.9	452.6	355.0

Direct Cite Customer:

USAF and US Navy	<u>72.6</u>	<u>50.2</u>
	525.2	405.2

The FY 76 Army APA Program Budget Base Submission totaled \$362.3M.

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Iranian Aircraft Program

(U) Both the training and logistics programs undertaken by and for the Government of Iran have shown significant improvement. The contractor, Bell Helicopter International (BHI), has developed milestone plans which, for the first time, provide an integrated approach to program completion. A mandatory first step to successful counterpart training has been taken. The contractors organizational structure was made compatible with the Iranian structure. Also, the contractor has increased staffing in those areas previously identified as deficient. Communications among all involved parties have improved. Contract Administration has progressed favorably through staff augmentation, improved procedures, increased surveillance and clarification of the relationships involving the Iranian Aircraft Program PM Field Office.

OV-1 Aircraft Conversion Program

(FOUO) The OV-1 Conversion Program will modernize the older OV-1C aircraft to a standard OV-1D configuration to accept the palletized and improved Infrared (IR) and Side Looking Airborne Radar (SLAR) packages. This will increase the operational capability and flexibility of the OV-1 aircraft. The improved sensors will allow a single converted aircraft to be interchanged to fly within the IP or SLAR mission, thereby increasing the surveillance capability and allowing fewer aircraft to perform more missions.

(FOUO) Currently, the Army has in operation for surveillance the older model OV-1B equipped only for Side Looking Airborne Radar and the older model OV-1C which have only the capability for Infrared.

(C) Contracts have been awarded for a total quantity of 25 aircraft conversions for FY 1975 and prior years. The projected procurement plan is as follows:

<u>FY75 & PRIOR</u>		<u>FY76</u>		<u>FY77</u>		<u>FY78</u>	
<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>
25	45,199M	12	21,421M	6	12,236M	6	6.813M
<u>FY79</u>		<u>FY80</u>		<u>TOTAL PROGRAM</u>			
<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>		
6	5,164M	3	2,585	58	93,868		

Utility Tactical Transport Aircraft System (UTTAS) (Sikorsky)

(U) The US Army Sikorsky UTTAS flight test had its first flight 28 Feb 1975. The flight duration was 12 minutes and consisted of hover, rearward and sideward flight to 10 knots, forward flight to 15 knots and control response evaluation. Gross weight of the aircraft was 16,000 lbs.⁹

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Utility Tactical Transport Aircraft System (UTTAS) (Boeing-Vertol)

(U) The Boeing Vertol UTTAS Flight Vehicle had its first flight on 28 May 1975. The flight was 32 minutes and consisted of system checkout in hover, forward, sideward and rearward flight to 20 minutes.¹⁰

Stinger Weapon System

(U) A revised Decision Coordinating Paper (DCP) was initiated by the Army and submitted to OSD for approval during FY 1975. This revision incorporates a new deployment concept of increased quantities of the weapon based upon an enlarged force structure. OSD approval was pending as of end FY 1975. A revised Advance Procurement Plan (APP) was prepared allowing for a competitive procurement approach, as directed by higher authority. This revised APP introduces a second source producer upon delivery and verification of hardware from the prime contractor during the second year of production. Because of economy in production costs under a sole source procurement approach, as reflected in cost estimates prepared by MICOM and verified by the AMC Comptroller, AMC submitted and recommended for adoption a sole source APP concurrently with the revised competitive APP. Production of the STINGER was planned to begin during FY 1977.

Shillelagh

(U) Funds in the amount of \$3.5M are programmed in support of the Shillelagh Weapon Program for FY 1976.

(U) MICOM introduced a Product Improvement Program (PIP) for the Shillelagh Conduct of Fire Trainer. The PIP involved changes mainly to the Launcher Visual Effects Simulator, Instructors Control Unit, and the Target. Total Procurement Appropriations (PA) Funds to complete the effort amounted to \$8.5M. The PIP was forwarded to DA for approval and funding for fiscal years FY 1975, FY 1976, and FY 1977. DA currently proposes moving this PIP Program forward to start PA Funding in FY 1977.

(U) A MICOM study confirmed that it was feasible to convert the Tactical, heat missiles warheads to Inert Warheads for the Practice missiles, to meet training requirements. Cost estimates for a specified quantity were provided DA for two approaches, the converted heat missile warheads and Inert warheads. The converted warhead approach was determined to be the most economical. The total PA Funds to complete the effort amounted to \$1.0M. The program was forwarded to DA for approval and funding. Funds were provided for in the FY 76 budget.

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AN/TSQ-73, Air Defense Command and Control System

(FOUO) The first production option for four Low Rate Initial Production (LRIP) models of the AN/TSQ-73 was exercised unilaterally by the government on 6 December 1974, following DDR&E approval of follow-on DT/OT II tests by TECOM and OTEA and Limited Production type classification approval by DA. The LRIP option was exercised six months later than planned because of the need for additional testing, which was directed by DDR&E based upon OTEA's findings in OTII tests.

(FOUO) Following the exercise of the LRIP option, the contractor, Litton Industries, notified the government that they intended to enter a case through appeal channels to gain relief from the production section of the contract which contained priced production options which would impose a loss to the company. An appeal was filed by Litton with the Armed Services Board of Contract Appeals on 30 May 1975 (ASBCA Case No. 20245). Following a review of contract cost data, a decision was made to renege the production section of the contract.

(FOUO) During the latter part of FY 1975, the Project Manager announced the need for a special In-Process Review (IPR) to determine the future course of action to be taken with the system. Termination was a possibility in view of past and anticipated cost growth and potential schedule slippage. Several alternatives were evaluated at the 19 June 1975 AMC pre-IPR. Most of the alternatives focused on technical, cost and schedule risks associated with the timing involved in effecting the new Threat Evaluation and Weapons Assignment (TEWA) routine desired by TRADOC. The AMC IPR position was to start DT/OT III on schedule and incorporate the new TEWA routine as an improvement to be tested about mid-way during the tests along with a related HAWK Product Improvement. The testing of the TEWA would be such that AMSAA would participate with TECOM and OTEA in test design and receive informal interim reports on all testing prior to the Production IPR.

(FOUO) The special IPR was scheduled for 24 July 1975. The recommendation of the three voting members (LEA, TRADOC, AMC) was to continue the program, but to allow for a slippage in the schedule to provide increased assurance, through additional testing, that the new TEWA has been successfully integrated into the system prior to OTEA's OT III. The DA decision on the IPR recommendation was pending as of the close of FY 1975.

Dragon Weapon System

(C) During FY 75 the following significant events occurred: The initial deployment (FUE) schedule was met; Iran and Israel decided to equip their forces with DRAGON and Switzerland procured 58 missiles for testing and evaluation; the second source contractors (Raytheon and Kollsman) were rated as qualified producers; the Launch Effects Trainer

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(LET) was type classified; and the ASARC IIIA and DSARC IIIA were held and approved the system to enter into high-rate production.¹¹

Improved Hawk

(C) The FY 75 Procurement Program was authorized as follows:

Army	520 missiles	11 battery sets \$80.3M
USMC	230 missiles	3 improved platoon command posts \$19.2M
FMS	918 missiles	27 battery sets \$178.0M

The FY 1975 production contracts were awarded to Raytheon Co. as 50 percent letter order contracts on a not-to-exceed price basis. A Should Cost Study was conducted and the results were utilized in negotiations to definitize the letter order contracts. MICOM unilaterally placed the contracts with Raytheon Co. on 30 June 75.

(U) The missile modification validation program was successfully completed in late July 1974. The modifications were incorporated in Lot No. 8, Block 410 and a program was planned for 1976 to begin modification of all fielded missiles. During FY 1975, efforts on Product Improvement Proposals (PIP) approved in FY 1974 were initiated: Digital Moving Target Indicator, Increased Memory/ATDL Capability and RF Modulation-Oscillator. Two new PIPs were submitted to DA: Optical Tracker and Mobility. The Communication PIP was updated and resubmitted for an FY 1976 start.

Lance

(U) During the FY 75, 194 missiles were procured for US and 203 for Germany, Netherlands and Belgium.

(U) The House Armed Services Committee recently proposed the addition of language to the FY 1976 authorization bill prohibiting the production of the non-nuclear warheads for any other country until it has been certified by DOD for US Army production and use. If this position is sustained and becomes law, current production contracts for FMS would have to be suspended. A favorable DSARC decision to purchase non-nuclear warheads for US Forces would preclude any impact on FMS commitments and comply with congressional direction.

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AMC, Selected Acquisition Reviews (SARs) Project Manager, Dragon Weapon System, March/June 1975.

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(U) The non-nuclear DSARC was held on 8 May 75. It was recommended that 730 missiles and non-nuclear warheads be approved for US Forces over a two year period, FY 1977 and FY 1978, at \$125.5M. DSARC decision was awaiting action by SECDEF at the end of the fiscal year.

Short Range Air Defense System (SHORADS)-ROLAND II

(U) On 9 January 1975, an engineering development contract was awarded to Hughes Aircraft Company for the German/French ROLAND II system, which was selected over RAPIER and CROTALE for adaption to the US SHORADS concept. The major sub-contractor for selected ground support equipment would be Boeing Aircraft Co. The ROLAND II was designed to provide an all-weather, day or night air defense of high value targets against high performance, low flying aircraft. The system was scheduled to replace CHAPARRAL in the Corps area.

(U) A Cooperative Test Program was begun in February 1975 and was due to continue until mid-1976 under a Memorandum of Understanding (MOU) between the US Government and the German Government signed 28 February 1975. As planned under the MOU, training of US personnel was accomplished in Creden, Germany and Nimes, France during February and March 1975. At the end of FY 1975, a second MOU was being negotiated to ensure commonality to the maximum feasible extent between the European and US produced versions of ROLAND II. It was planned that production of the US version of ROLAND II would begin in FY 1977.

Combat Service Support System (CS3)

(U) The Combat Service Support System (CS3) is a non-developmental, ruggedized, tactical, multi-functional computer system for the Army in the field. It is project managed by the Computer Systems Command (CSC), Fort Belvoir, VA.

(U) In October 1974, the Computer Systems Command requested that AMC designate a CS3 Systems Support Manager to provide continuing support and act as a point of contact for logistic support. AMC in turn designated the US Army Electronics Command as Systems Support Manager. In addition to the Electronics Command overall support responsibilities, the Troop Support Command and the Tank Automotive Command will be responsible for acquiring and shipping non-ADPE components to Lexington-Bluegrass Army Depot where final assembly is planned. During FY 75, the Lexington-Bluegrass Army Depot assembled and shipped three CS3 Division Systems. As a result of Project CONCISE, CS3 assemblage responsibility was to be transferred from Lexington-Bluegrass Army Depot to Tobyhanna Army Depot during FY 1976.

AN/PRC-77 Radio Set

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(U) At the end of FY 1975, there were currently 24,237 subject radios and 1,625 RT 841 receivers on contract with the following producers:

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	<u>Qty</u>	<u>Value</u>	<u>Qty</u>	<u>Value</u>
E-Systems (Memcor Div)	10,922	\$7.8M	226	\$.1M
Cincinnati	7,092	3.3	1,004	.5
Sentinel	<u>6,223</u>	<u>2.7</u>	<u>395</u>	<u>.2</u>
TOTAL	24,237	\$14.8M	1,625	\$.8M

E-Systems had problems in delivery, but as of May 75 was producing ahead of schedule.

(U) Cincinnati and Sentinel contractors requested increases under PL 85-804 on the premise their bids were in error, indicating they thought they were bidding on the total quantity whereas it was split. The split was for a Small Business set-aside for Sentinel. At the end of FY 1975, the increases had not been decided upon pending review and evaluation. A protest was filed by Bristol but was disapproved.

AMC 5-Year ADP Program

(U) The COMDISCO, Inc. protest of the procurement of IBM 360/65 computers from the IBM Corporation culminated in a hearing on 28 April 1975 before the Subcommittee on Legislation and National Security, Committee on Government Operations, House of Representatives. As a result of the hearing, it was determined that the remaining three (3) IBM 360/65 computers for the ALPHA program would be purchased from the "third party" market rather than from the IBM Corporation. Contracts were awarded on a competitive basis to Continental Information System, Greyhound Computer Corp. and Itel Corp. The delivery schedule for installation is as follows:

ECOM - On/about 29 July 1975;

ARMCOM - On/about 2 October 1975; and

TACOM - On/about 16 January 1976.

Forward Area Tactical Teletypewriter (FATT)

(U) The Forward Area Tactical Teletypewriter (FATT) system was developed by the Kleinschmidt Division of SCM in response to a Qualitative Materiel Requirement (QMR) dated January 1965 and revised in October 1968. The requirement is still valid and has not been withdrawn by TRADOC. FATT was type classified STD in November 1973. Plans to procure FATT on a sole-source basis from Kleinschmidt were cancelled because of restrictions imposed by Congress requiring "full competition" before procurement.

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(U) The sole-source solicitation was cancelled. At the end of FY 1975, the Project Manager, Army Tactical Communications Systems (PM-ATACS) was developing a procurement data package for competitive solicitation using the APE drawings prepared by Kleinschmidt. To assure continued support of the Army in the event FATT was not procured, PM-ATACS/ECOM was closely studying end item and repair parts availability. The U. S. Army Signal School has been developing a new concept for record communications which would eventually eliminate the conventional teletypewriter system in the 1985-90 period. The new concept relies heavily on new equipment developments being conducted by the Tri-Service Tactical Communications (TRI-TAC) group, the Project Manager, Army Tactical Data Systems (PM-ARTADS), and the Project Manager, Single Channel Ground-Air Radio System (PM-SINCGARS).

(U) The Signal School began developing a requirements document for a mini-computer assisted page printer ("smart terminal") as the first step in translating the new concept into hardware. Personnel from ECOM/PM-ATACS were assisting in this effort. The Directorate for Telecommunications and Command and Control Systems (DTACCS), DOD has expressed interest in this requirement and has indicated that the proposed TRI-TAC Composition and Editing Device (COED) would satisfy this need.

(U) DA advised TRADOC by message 271450Z Jun 75 that the impact on Army forces resulting from the projected teletypewriter shortage must be determined prior to cancellation of the FATT QMR and that if no other alternatives appear feasible, procurement of FATT must continue. TRADOC was requested to coordinate with FORSCOM and AMC to expand upon the rationale for the recommendation to cancel FATT, evaluate the impact of the projected shortfall, and be prepared to present this information to HQDA, 6 August 1975. A prebrief was scheduled for the Deputy Commander, AMC, 4 August 1975.

(U) From the AMC standpoint there were two critical dates: (1) Fourth Qtr FY 1976--award, using FY 1974 and FY 1975 funds, a FATT production contract leading to initial deliveries and IOC in 3d Qtr FY 1979. Award later than FY 1976 would result in the loss of \$15.0M of FY 1974 funds, and a degraded readiness posture. (2) Fourth Qtr FY 1977--when shortages in the old family of teletypewriters develop.

Armament Procurement

Ammunition Program

(U) During Fiscal Year 1975, the ammunition end item procurement program released to ARMCOM for execution totaled \$1,705,800,000. This consisted of \$627,100,000 for Army and \$1,078,700,000 for customers. Against this authorization, ARMCOM obligated \$1,197,000,000 (70 percent)

as of 30 Jun 75. The low percentage of obligation was attributed to the cessation of hostilities in Southeast Asia.

(U) In May 1975, immediately following the demise of the Government of South Vietnam, a complete reevaluation was made of the FY 1975 and prior year undelivered programs to determine the impact of the cessation of hostilities upon the production of ammunition. This reevaluation resulted in production cutbacks in both industry and GOCO plants. Greatest impact on reductions occurred in the following areas:

60MM Low Velocity;

57MM Mortar;

81MM Mortar;

105MM Howitzer Ammunition;

155MM Howitzer Ammunition;

Rockets, 66MM Law;

Flare, Trip;

Signals;

Anti-personnel Mines; and

Hand Grenades.

Small Caliber Ammunition

(U) The cessation of hostilities in Southeast Asia caused the requirement for small caliber ammunition to decrease rapidly during the latter part of FY 1975. The SAMPAM AMP review conducted at Rock Island Arsenal revealed that most small caliber ammunition was in excess of AAO's by 2 to 400 percent. The general plan was to allow issuance of practice ammunition or FMS through off-the-shelf procurement to deplete the existing small caliber stocks. In general, it would be several years before procurements became necessary to maintain the AAO at 100%. Buys are planned which would begin replacing existing stocks when the 100% AAO level was reached.

(U) Some small caliber ammunition, however, would be procured during FY 1976. These include .22 caliber used for small bore target practice and matches and blank cartridges used by veterans groups in ceremonial services. In general, small caliber ammunition production was being drastically reduced.

Scrap Brass

(U) During FY 1975, the Army reevaluated its policy of negotiated sales to selected brass mills. A conclusion was reached to continue the control of Government-owned scrap brass needed for ammunition production programs. This amounted to approximately 30% of all scrap brass. However, instead of negotiated sales to selected brass mills, the scrap brass was to be provided as Government-furnished property (GFP) under appropriate provisions of the Armed Forces Procurement Regulation regarding reprocessing and further use in ammunition production programs. The amount of scrap brass provided as GFP would be based upon the amount of semi-finished materials to be supplied by the brass mills. Because of declining DOD ammunition procurement, excess scrap brass would be referred to the Defense Supply Agency for public sale.

Training Devices

(U) A Project Manager for Training Devices (PM TRADE) was established on 9 Sep 74 with responsibility for centralized management of Army training devices except for those training devices under the cognizance of AMC Major Subordinate Commanders and other Project/Product Managers. In general, the PM TRADE was made responsible for non-system training devices.

(U) The PM TRADE, located at Fort Benning, Georgia also has control of the US Army Training Device Agency (ATDA), located at the Naval Training Equipment Center (NTEC), Orlando, Florida. The establishment of this PM provides a single focal point for the Army non-system training devices and the means for improved response to user requirements.

Launcher, Rocket, 66mm 4-Tube, M202A1

(U) In October 1968, the CG USARV, Long Binh, Vietnam requested a flame weapon system that would provide the infantry platoon a bunker-defeating capability from stand-off range of 200 meters. The mud and earth bunkers being utilized by the enemy throughout the Republic of Vietnam had been extremely resistant to the destructive capabilities of contemporary high explosive weapons systems such as the M72 (LAW). Also, the available family of portable flamethrowers was inadequate because of range limitations. Since these bunkers formed the nucleus of enemy defensive positions, there was an urgent requirement for a weapons system that would destroy mud and earth bunkers from a stand-off range of 200 meters. The weapon was also used against automatic weapons positions, small groups of personnel, and combustible enemy materiel targets.

(U) The XM191 Multishot Launcher and Rocket, Ensure Item 263, titled: Long Range Flame Weapon (FLASH) developed by Northrop Nortronics, Anaheim, California is the weapons system.

The major components of the weapon are: Launcher, Rocket, 66mm, 4-Tube M202A1; and Rocket, Incendiary, 66mm, TPA, 4-Round Clip, M74. The weapon consists of a lightweight, shoulder-fired, four-tube rocket launcher with sling and a preloaded four-round rocket clip.

(U) On 20 November 1970, a conditional release for 1095 launchers XM202 manufactured by the Brunswick Corp., Sugar Grove, Virginia was authorized for shipment to Vietnam. Another conditional release of 235 launchers M202, manufactured by G. W. Galloway Company and reworked by Edgewood Arsenal was authorized for shipment to Vietnam in October 1972. The M202 Launcher was placed on contract with Brunswick Corp which required delivery of 497 launchers to the Army and 1360 to the US Marine Corps. TECOM discovered a latent defect during check testing. It was determined that an inherent safety hazard existed in the trigger mechanism assembly. A hair trigger/inadvertent fire condition existed. A product improvement project was initiated to correct the condition. A complete engineering redesign was required. The contractor completed the rework by February 1975, and TECOM advised ARMCOM in March 1975 that the M202A1 Launcher was free of safety hazards.

(U) With the multi-year procurement which was awarded for the FY 1974 and FY 1975 quantities, the requirement for a new weapons system had been satisfied. It was planned that the field would be equipped with the new incendiary weapons system replacing the World War II backpack type of flamethrower.

Surface Systems

Camouflage Screening System, IR and Radar Scattering

(U) Large scale production procurements were awarded on these newly developed camouflage systems. The new system has IR and radar scattering capability, is lightweight and has increased service life. Multi-year contracts were awarded to Brunswick Corporation, a large business, and through the Small Business Administration to two minority-owned industries. The first of these latter contracts, a \$45,000,000 contract to Devils Lake Sioux Mfg Corp, was the largest contract ever awarded under the minority-owned industry set-aside program. The second contract, for \$9,450,000, went to A&S Tribal Industries.

Support of Troops in Korea

(U) US Troops of the Eighth Army in Korea have been billeted in 20 year old quonset huts, the living conditions being deplorable. This was reported by The New York Times and Newsweek. Congressional actions precluded the fabrication of permanent housing (MCA programs) being constructed in Korea. The Chief of Engineers proposed a plan in December 1974 to use relocatable buildings in lieu of permanent buildings to provide adequate living conditions. The AMC Mechanical Equipment

Research and Development Center (MERDC), in coordination with Chief of Engineers, developed a technical data package in April 1975 and OPA funds were identified in May 1975. The AMC Troop Support Command (TROSCOM) conducted competitive procurement actions in May and issued a contract in June for the requirement with delivery planned to commence in September with completion in October 1975.

Medium Girder Bridge

(U) Fairey Engineering Ltd of Stockport, Cheshire, England was awarded a \$7 million contract for production of Medium Girder Bridges. This contract, signed June 26, 1975 was a significant milestone toward realization of cost savings through military standardization among NATO countries.

(U) It was also the first substantial order for British-built field equipment by the US Army since World War I and adds the United States to the already prominent list of nations throughout the world using the bridges. The Medium Girder Bridge, employing sophisticated, lightweight aircraft design principles, was designed by the British Military Vehicles and Engineering Establishment. It took 10 years to develop and field test. The bridge is a 100-foot span capable of carrying 60-Ton loads. It can be hand erected in under one hour by only 25 men, without site preparation.

M88A1 Recovery Vehicle Medium

(U) The Product Improvement Program for Dieselization of existing US Army gas M88 Fleet was on schedule at the close of FY 1975. Procurement of conversion kits total \$111.0 million. Conversion was scheduled for completion in CY 1981. New procurement of M88A1's was approved in FY 1975 (FY 1975, 76, 77) at a total cost of \$212.8 million for Army and \$23.6 million for Marine Corps.

Small Business Program

(U) The final small business program statistics for FY 1975 revealed that AMC had exceeded the assigned goal of 15.8% with an 18.1% level of performance. This accomplishment exceeded the AMC performance in the program of the past six years. The percentage represented \$857.6M in contracts awarded small business firms, an increase of \$61.9M. Three major commands did not attain assigned goals for FY 1975; however, the margin of failure was very small.

(U) In support of the President's Minority Business Enterprise Program, AMC continued to be the federal leader with the award of 93 contracts, valued at \$38,826,260. This exceeded the program high of 75 contracts awarded in FY 1974.

CHAPTER V

PROJECT MANAGEMENT: WEAPONS SYSTEMS

Introduction

Project Manager Development Program (PMDP)

(U) At least since 1973, materiel acquisition, and especially project management, has been undergoing an intense review within the Army. Congressional interest began much earlier. In 1973, the Secretary of Army established the Army Materiel Acquisition Review Committee (AMARC), the mission of which was to conduct a comprehensive review of the Army's entire materiel acquisition process. Though some were already in process, many recommendations and changes resulted from the findings of the AMARC study.

(U) Among the recommendations of the AMARC study, which was completed in April 1974, and released to the public on 15 August 1974, was one calling for improving materiel acquisition personnel posture through a personnel development program which would grant proper recognition to the project manager because of his value as a resource manager.¹ Actually, the AMC materiel acquisition had already been improved through the publication of DA Pamphlet 600-3, Officer Professional Development and Utilization, that reflected in the Project Manager's performance appraisal his accountability for cost management and including cost analysts as active participants of Source Selection Evaluation Boards, and through revision of materiel acquisition policies and procedures providing for contractor evaluations of producibility in the early development stages.²

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DA letter, 19 August 1974 to Commanders: AMC, FORSCOM and TRADOC, 19 August 1974, subject: Release of Army Materiel Acquisition Review Committee Report to the Public (News Release No. 377-74, 15 August 1974, same subject - attached) (In AMCHO consolidated subject file under AMARC).

2

Letter, SecArmy Howard H. Callaway to Honorable F. Edward Hebert, Ch. Committee on Armed Services, House of Representatives, 29 May 1974, with inclosure, AMARC Report (including a 28 May 1974 paper entitled "Army Action on AMARC report"). (In AMCHO consolidated subject file under AMARC.)

(U) The acquisition and training of quality project managers had long been a concern of the Army. However, in February 1974, prior to the release of the AMARC findings, DCSPER directed the Commander MILPERCEN to establish a Project Manager Development Office (PMDO) with the MILPERCEN Office Research Directorate as part of a Project Manager Development Program (PMDP). Initial development of the PMDP began in March 1974. Continued development was directed in the approved AMARC implementing plan in May 1974. In September 1974, MILPERCEN began selection of officers for participation in the PMDP.

(U) The PMDP was established for the professional development of officers pursuing a career in managing the acquisition of major defense systems. The PMDP was viewed as a mechanism for identifying and developing qualified commissioned officers to support future requirements for project managers or other senior officers for materiel acquisition. At the end of FY 1975, the PMDP had identified approximately 2,200 positions for development. Over 1,750 of the identified positions were approved for the program and of these, about 1,500 were approved PMDP positions within AMC. Letters of invitation to join the PMDP were dispatched as of March 1975. By the end of May 1975, 532 officers had been nominated or applied for the program, and 324 had been chosen for membership. As of the end of FY 1975, some 97 officers had accepted with only 8 declinations.³

Defense Systems Acquisition Review Council (DSARC)

(U) The PMDP program and other programs launched in recent years sought to provide personnel and management excellence in the area of materiel acquisition. Aside from effective program leadership, the disciplines imposed over all major Defense acquisition programs in excess of \$50 million in RDT&E and \$200 million in procurement or of other special interest have been impressive. The Defense Systems Acquisition Review Council (DSARC) provides an effective and continuous process which attempts to assure efficient and effective systems acquisition through a program of formal reviews during the various phases of systems acquisition.

(U) DSARC I, the first major milestone focuses on the decision whether to proceed into advanced development. The questions of military need, the program potential for filling the need, technical risks involved, and the status of alternatives are decided at this phase. Even approval at DSARC I does not assure progression to DSARC II. Interim reviews and conditions are frequently imposed.

3

Letter, AMCPT-PT to AMC Subordinate Commands and Installations, 3 July 1975, subject: Project Manager Development Program (PMDP). (In Historical Source Files of AMC Historical Office, Consolidated Subject File "Project Management - General 1974-75."

(U) DSARC II involves the decision for moving into full engineering development. At this phase, while need is still a critical issue, other issues such as the quality of cost and performance data that has been developed, the adequacy of the test and evaluation programs, and the maturity of the technology, are examined and addressed.

(U) By the third phase, DSARC III, the issue of proceeding into production is addressed. At this stage, questions focus on force structure requirements, production readiness, producibility, logistics support, and training and manpower needs. Also test and evaluation results are carefully analyzed. In addition to the formal DSARC reviews, there may also be less formal program reviews plus other continuous support activities bridging intervals between reviews. Altogether, the DSARC program provides an extremely consistent, pervasive management procedure.⁴ Within the Army, the Army Systems Acquisition Review Council (ASARC) provides program review looking toward the DSARC reviews.

Design to Cost (DTC)

(U) Operating within the DSARC system is the Design-to-Cost (DTC) concept which is a system for the management and control of future acquisition, operating and support costs during the design and development process under established and approved cost objectives. A design-to-cost goal is a specific cost expressed in constant dollars for a specific number of systems at a definite production rate. The goal is established early in the acquisition process, at least before full scale production.⁵ Design-to-cost hopes to achieve a balance between life cycle cost, performance and schedule. Design-to-cost principles were being implemented effectively by program managers with clauses appearing in contracts usually in the form of incentives or awards for meeting goals. Maximum benefits of DTC are expected to appear prior to the entry of a program into the production phase.

Selected Acquisition Report (SAR)

(U) Once committed to the development of a full-scale major weapons system within a defined cost for a definite quantity, the Selected Acquisition Report (SAR) is used for measuring performance under the commitment. The SAR is prepared quarterly to provide information to DOD, the Congress, the Office of Management and Budget and the General Accounting Office concerning program cost, schedule and technical data. These reports present a standardized method

4

"RDT&E Management Initiatives in an Age of Uncertainty," Commanders Digest, Vol. 18, No. 15, October 9, 1975.

5

"A Design to Cost Overview," Defense Management Journal, special issue entitled Design to Cost, September, 1974, p. 2.

for tracing progress with actual achievements being assessed against program objectives.

Cost Analysis Improvement Group (CAIG)

(U) The establishment of cost goals with an expectation that costs will remain within assigned goals has required the DOD to employ a Cost Analysis Improvement Group (CAIG) to assure the accurate assessment of projected costs. The CAIG review of program cost provides improved visibility of estimates and points up differences between program managers and independent estimates prepared by the CAIG when such additional estimates are required. The CAIG provides cost assessments for each program coming under DSARC review.⁶ Project managers responsible for directing the numerous weapons, equipment and management systems programs for the Army have use of this elaborate system of management tools combining the DSARC, DTC, SAR, and CAIG plus the formalized training programs to aid them.

Review and Command Assessment of Projects (RECAP)/Department of the Army Program Report (DAPR)

(U) The management of materiel and systems acquisition within AMC was further refined through the implementation of the RECAP and DAPR reporting systems. The Project Managers were given responsibility for preparing and presenting quarterly or semi-annual, depending upon the project, RECAP briefings and quarterly DAPR pre-briefings to the AMC Deputy Commanding General. In these briefings, the Project Manager was encouraged to address significant events and existing or potential problems, the resolution of which required assistance from headquarters, AMC or higher headquarters. The briefings include charts and graphs depicting program schedules, performance specifications status, system reliability growth, system performance assessment, test status, program acquisition cost, RDTE cost, procurement cost schedule, contractor cost/schedule variance trends, design to unit production cost, delivery schedules, foreign sales status, summary of project highlights, assistance required, and overall program metrics.⁷

Army Project Managed Systems

(U) As of the 1st of June 1975, the Army Materiel Command had forty-four systems under special product or project management. Project managed systems were those chartered by the Secretary of the Army. Product managed systems were chartered by the AMC commander.

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Op. cit., Commanders Digest

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DARCOM Regulation No. 1-34, 25 February 1976, subject: Program Reviews, Review and Command Assessment of Projects (RECAP) Department of the Army Program Report (DAPR) which superseded AMCR 1-34, 17 July 1972.

Thirty-two of the systems were under the control of major subordinate commands and twelve reported directly to the Commander of AMC. Four systems were under the USA Armaments Command; five systems were under the USA Aviation Systems Command; seven systems were under the USA Electronics Command; eleven systems were under the USA Missile Command; and five systems were under the USA Tank-Automotive Command. Except for SAM-D, the systems reporting to the Commander, AMC, are the systems covered in this report (chapters V and VI). The Annual Reports of Major Activities (ARMA) of the major subordinate commands will include portions devoted to the project managed systems of the respective major subordinate command.

(U) Chapter V includes portions devoted to four of the weapons systems included in the "Big Five." The "Big Five" are the systems around which the Army, the fighting Army, proposes to be organized. Included are: The Advanced Attack Helicopter (AAH), the Mechanized Infantry Combat Vehicle (MICV), the Utility Tactical Transport Aircraft System (UTTAS), the XM-1 Tank System, and the SAM-D surface-to-air missile. The SAM-D history is covered in the Annual Report of Major Activities of the US Army Missile Command. The four weapons systems covered in Chapter V and the seven equipment and management systems covered in Chapter VI are described below.⁸

Chapter V Weapons Systems

(U) Advanced Attack Helicopter. An advanced attack helicopter capable of defeating tanks, providing quickly responsive direct aerial fires as an integral element of the ground forces and capable of performing its mission at night and under adverse weather conditions. This weapon system will contribute highly mobile and effective firepower to the anti-armor capability of the Army in the field and will function as another element of fire and maneuver in the combined arms team.

(U) Mechanized Infantry Combat Vehicle. The Mechanized Infantry Combat Vehicle (MICV) is a lightly armored tracked combat vehicle having high cross country mobility and mounted firepower to provide protection for the mechanized infantry squad in mounted and dis-mounted combat.

(U) Utility Tactical Transport Aircraft System (UTTAS). A new twin engine helicopter that will replace the UH-1 in the air assault, air cavalry and medical evacuation missions. This aircraft will be the Army's first true squad assault helicopter. UTTAS will be

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USAMC Fact Sheet "Project/Product Managed Weapons/Equipment Systems,"
March 1975 (in AMCHO Historical Sources - Project Manager Fact Sheets-
Lists.

designed to transport troops and equipment into combat, resupply troops while in contact and perform the associated functions of aeromedical evacuation, repositioning of reserves, command and control and other support. Increased cost-effectiveness will be achieved through substantially improved maintainability, reliability, survivability and performance.

(U) XM-1 Tank System. An advanced main battle tank which is characterized by exceptional battlefield mobility and agility, rapid engagement of successive targets with high assurance of first-round hits, weapons effectiveness approaching total target neutralization at ranges commensurate with target acquisition capabilities, substantial improvement in fire control and target acquisition means, effective target engagement while moving, enhanced protection and decreased vulnerability, and capability to operate effectively during periods of darkness and limited visibility. This tank would help offset the numerical superiority of Warsaw Pact forces.

Chapter VI - Equipment and Management Systems

(U) DCS (Army) Strategic Communications Systems. The DCS (Army) Strategic Communications Systems Project encompasses all strategic Army communication systems requirements whether associated with Defense Communications Systems (DCS) or generated by Department of the Army. Responsibilities include RDTE Resource Control, Configuration Management, Integrated Logistics Support Planning, Procurement and Production, Product Assurance and follow-on Logistics Support to the point of project transition. It also includes installation/implementation planning, on-site testing and acceptance, and first-year operation and maintenance when contractually performed. The project is a continuous program where new tasks are assigned and completed tasks are transferred with each successive year.

(U) Mobile Electric Power. The Project Manager for Mobile Electric Power, located at Fort Belvoir, Virginia and reporting to Headquarters, Army Materiel Command, is responsible for development and implementation of a program which will eliminate the diversity of sizes, types, makes, and models and improve the quality of power generator equipment used by the DOD. The foundation of the program is the development of a DOD standard family of engine generators of high quality, rugged design which can be repetitively procured on a fully competitive basis, and which will meet the needs of the Military Services and agencies of DOD. The resultant simplification in training, maintenance, and repair parts support will appreciably improve operational effectiveness and provide substantial savings in logistical support costs.

(U) Munitions Production Base Modernization and Expansion.

The Project Manager, located at Picatinny Arsenal and reporting directly to the Commanding General, US Army Materiel Command, is responsible for the planning, direction, control and execution of the modernization and expansion program at Army Munitions Plants and Arsenals, for government equipment located at contractor owned installations.

(U) Satellite Communications (SATCOM). The US Army Satellite Communications Agency is the Army Project Management activity for satellite communications. The project involves research, development, test, evaluation, procurement, and life cycle logistic support for ground terminals. Terminals are designed for operation and maintenance by military personnel of all three Services for both Strategic and Tactical Communications applications. Terminals range in size from antennas with 60-foot diameter reflectors to man pack units to miniature terminals for special applications. Major programs include: the Defense Satellite Communications System (DSCS); Tactical Satellite Communications (TACSAT); Navigation-Global Positioning System (NAVSTAR-GPS); and exploratory development in those technological areas where the state-of-the-art must be advanced to improve the ground environment. Several classified projects for special users have also been assigned.

(U) SANG (Saudi Arabian National Guard Modernization Program.

This program manages the organization, training and equipping of two mechanized infantry battalion-size units of the Saudi Arabian National Guard to include the necessary command and control, fire support and logistics support systems.

(U) Surface Container-Supported Distribution Systems Development Project. The Department of the Army has been designated as the Executive Service for the Surface Container-Supported Distribution Systems Development Project. The project, located at Headquarters Army Materiel Command, will develop standard equipment, policies and procedures that can be used by the Military Services and DSA to exploit the full potential of surface container-supported distribution systems. This includes the planning, directing and controlling of resources authorized for the execution of approved projects. The major project responsibilities are: satisfying, and reporting status of, specific development and support requirements stated by the participating Services/Agencies; the development of necessary Joint Operating Procedures (JOPs) which will specify the procedures for satisfying peculiar requirements of the participating Services/Agencies; providing optimum commonalty and interchangeability of systems equipment and procedures throughout the DOD; and insuring compatibility of the DOD Surface Container-Supported Distribution Systems with those elements of the commercial industry with which they must interface.

(U) TRADE (Training Devices). The Project Manager for TRADE exercises direct control over the US Army Training Device Agency (ATDA) Orlando, Florida, and reports directly to the Commanding General, US Army Materiel Command. He is responsible for planning, directing, and controlling the life cycle management of non-system and non-type classified system training devices and providing support to the managers of system training devices as required.

Termination of Heavy Lift Helicopter (HLH)

(U) One major system, the HLH, was scheduled for termination during the year. The Committee on Armed Services, US Senate, recommended termination of the Heavy Lift Helicopter (HLH) program in its report of May 19, 1975 of the FY 1976 and 1977 on the appropriations for Military Procurement, Research and Development and personnel. The committee noted that the HLH original program did not include a prototype helicopter and flight testing. The Congress had supported the technology program only. The prototype came into being as a result of DOD interpretation of Congressional intent according to the committee's report. Sustained by the Senate and House in 1975, the committee was successful in denying funds for a second prototype, primarily for the stated reason that no operational requirement had been approved and then was insufficient reason to justify an authorization of \$38 million for a second prototype which might never go into production.⁹

(U) Following this, DOD directed that the program be terminated upon completion of the single prototype program primarily because of tight budgeting considerations.

(U) The Army argued that since \$179 million had already been spent, and it would cost \$9 million more to terminate the program, that the program should have been allowed to complete advanced development including flight test insisting that this data would be useful if there proved a later need to build the HLH.

(U) The Congress did not accept this argument because there was no stated future requirement for an HLH and indicated that it viewed the \$39.9 million required to complete the advanced development phase represented a substantial amount of money. The Congress also considered that the difficult technical problems remaining to be overcome in the program, which they considered to be high risk, and conjectured that with inflation, the cost might reach between \$50 and 75 million. The committee conceded that the technical difficulties could be overcome, but added that the one having to do with rotor/drive technology was unique to heavy lift helicopters and could not be used in other applications. Also, the committee reasoned that the Navy's CH-53E, which had been authorized for production would provide the Army with a 16.5 ton lift capability compared with the HLH capability of 22.5 ton lift. The HLH was a joint Army/Navy project. The committee felt this would

be sufficient for Army requirements. For the reasons Cited, the committee recommended that the HLH program be terminated as soon as possible prior to 1 July 1975, and provided \$9 million for the purpose. The Secretary of the Army approved the request for termination of the HLH project on 8 March 1976 and directed HQ, DARCOM to publish general orders effecting the termination. The transition of assets and residual elements to the Project Manager, CH-47 Modernization Program was to be implemented by the Commander, US Army Aviation Systems Command.¹⁰

Advanced Attack Helicopter (AAH)

Organization and Manpower

(U) Brigadier General Samuel G. Cockerham was designated Department of the Army Project Manager for the Advanced Attack Helicopter (AAH) effective 16 April 1973. General Cockerham was delegated full line authority for the Commander, AMC, for the execution of the AAH mission. The AAH Project Manager charters approved by the Honorable R. P. Froehlke, Secretary of the Army, 20 April 1973, and Howard . Calloway, Secretary of the Army, 20 June 1975 gave General Cockerham responsibility for all facets pertaining to the planning for and development of and fielding of the Advanced Attack Helicopter.

(U) Changes to the AAH TDA during FY 1975 altered the organization of the AAH PMO by: establishing the Operations Research Division from the former Cost Management Branch of Program Management Division, and from spaces in the Technical Management and Procurement and Production Divisions; by eliminating the Project Support Division and transferring the personnel and administrative functions to the headquarters office and other functions to the Program Management Division; and by eliminating the ECOM Field Office. Organizational charts at Figures 14 and 15 depict the old and new organization.

(U) The authorized and assigned AAH PMO work force remained the same in FY 1975 as in the previous fiscal year based on the March 1974 AMC manpower survey. Actual strength figures for FY's 1974 and 1975 were:

DATE	CIVILIAN		MILITARY		TOTAL	
	AUTH	ASSIGN	AUTH	ASSIGN	AUTH	ASSIGN
30 Jun 74	76	74	9	9	85	83
30 Jun 75	76	74	9	9	85	83

The civilian actual grade average rose from 10.1053 on 30 June 1974 to 10.70 ceiling.

10

Message, 022159Z MAR 76 from Commander, DARCOM to Commander, AVSCOM and PM-HLH and PM CH-47, subject: Termination of Project Manager for HLH.

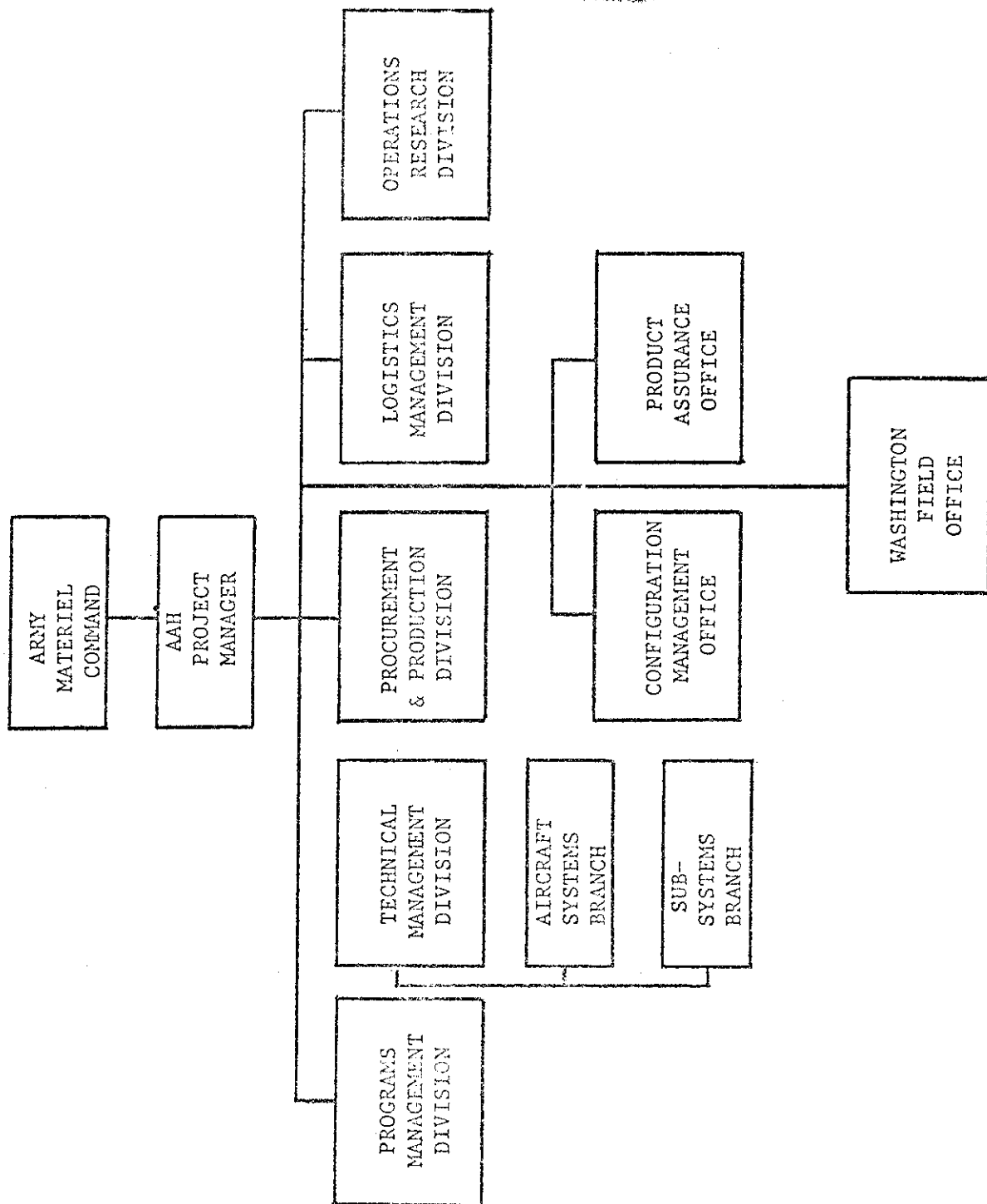


Figure 14

FOR OFFICIAL USE ONLY

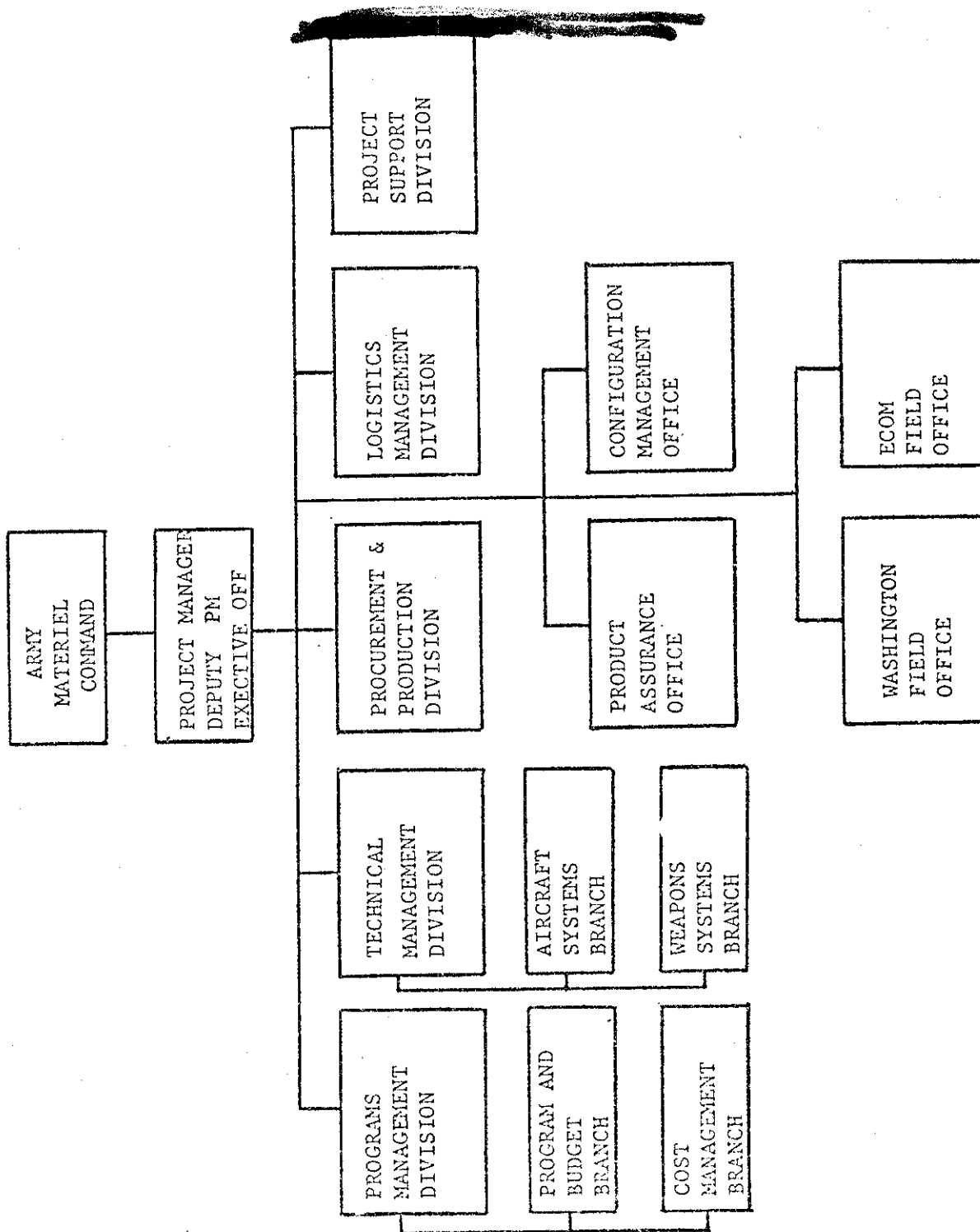


Figure 15

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COMPETITION SENSITIVE

Plans and Programs

(CS) A contract modification (six-month extension) was requested and granted during the year. On 21 August 1974, the Army advised Bell and Hughes that additional FY 1975 funding was not available and requested that each contractor provide new cost estimates and recommend deferrals and deletions to their FY 1975 scope of work that would be consistent with funding constraints. Contractor proposals were received in response to a 25 September 1974 letter in which the Army notified Bell and Hughes that it was prepared to accept a four-month delay. The AAH Development Concept Paper(DCP) schedule threshold for the development program provided for six months tolerance.¹¹

(FOUO) Responses from the contractors indicated that Bell could maintain program schedule if significant additional FY 1975 funding was provided, but that Hughes could not meet the program schedule even with additional funding because of late design releases and late hardware deliveries from several major subcontractors. The government assessment concluded that a six-month slip of the remaining Phase 1 schedule milestones would be allowed. In addition, the contractors would be permitted to continue spending, at their own risk, funds in excess of the FY 1975 budget limitations. Negotiations with each contractor were initiated in December 1974.¹² The modification to the airframe contracts which extended the original Phase 1 program by six months was signed on 13 February 1975. The Phase 1 engineering development schedule was extended from May 1976 to November 1976.

(CS) Both contractors were advised that the Government would not be liable for any funds expended which exceeded allotted amounts specified in the contract.¹³ The modifications deferred some work until FY 1976 and other work was deferred to Phase 2 to reduce the required effort during FY 1975.

¹¹

Selected Acquisition Report (SAR), 30 Sep 74.

¹²

Selected Acquisition Report (SAR), 31 Dec 74.

¹³

Review and Command Assessment Projects (RECAP), 27 Feb 75.

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~~FOR OFFICIAL USE ONLY~~

~~CONFIDENTIAL~~

(FOUO) The AAH budgetary request for FY 1976 included funding sufficient to reimburse contractors for the scope of work performed at their own risk in FY 1975.¹⁴ Both contractors, Bell in particular, continued to spend their own money and take advantage of the additional time. As a result, both contractors have spent more in the competitive environment -- ending FY 1975 with a large payback required from FY 1976. The PM has been prevented from allotting FY 1976 funds to cover their expenditures and unliquidated commitments. The passage of the authorization bill for FY 1976/7T was expected to relieve this problem.¹⁵

(FOUO) The Prototype Development Lead Time Items (PDLTI) funding was lost for FY 1976/7T. An AAH PM evaluation of lead times for subsystems such as the ammunition handling system, the sighting system, and the Phase 2 prototype aircraft, including such airframe subsystems as the landing gear and hydraulic components, concluded that current and forecast unfavorable material leadtimes could cause extension of the Phase 2 schedule. Therefore, the budget submissions for FY 1976, 7T and 1977 were revised to include funds necessary to initiate Phase 2 schedule protection efforts with both prime contractors, prior to completion of Phase 1. The funding of long leadtime items would cost the Government an additional \$7 million in Phase 1 as opposed to approximately \$96 million for an additional Phase 2 slippage of eight months in lieu of schedule protection. This was considered a necessary and advantageous tradeoff.¹⁶ Due to objections to the term "schedule protection," the terminology was changed to "PDLTI." An updated Advance Procurement Plan was approved on 1 May 1975 which included PDLTI in Phase 1, a new Phase 2 schedule and the elimination of concurrency between Phase 2 and production.¹⁷ However, the Senate Armed Services Committee and the House Armed Services Committee recommended deletion of PDLTI funding in FY 1976 and 7T. The PM Office began assessing alternative program schedules in an attempt to minimize schedule extension and cost growth resulting from the loss of PDLTI funding. Results were to be presented to Headquarters, AMC and the Army staff during the 1st Quarter of FY 76.¹⁸

14

Selected Acquisition Report (SAR), 31 Mar 75.

15

Department of the Army Program Report (DAPR) Presentation, 7 Aug 75.

16

Review and Command Assessment Projects (RECAP), 27 Feb 75.

17

Review and Command Assessment Projects (RECAP), 6 May 75.

18

Selected Acquisition Report (SAR), 31 Mar 75.

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COMPETITION SENSITIVE

Documentation

(U) The following documentation was acted upon during FY 1975. The Materiel Need (MN) document was revalidated by the Department of the Army in February 1975.¹⁹ The Development Plan (DP) was revised on 24 August 1974. However, the schedule extension would necessitate changes to the Development Plan, Coordinated Test Program, and Integrated Logistics Support Plan.²⁰ The Development Concept Paper (DCP) Cover Sheet No. 2, which revises DCP No. 123 and incorporates the six-month extension to the Phase 1 schedule and elimination of development/production concurrency, was forwarded to AMC on 14 February 1975²¹ and to DA in March 1975.²² This document had not been approved by DA at the close of FY 1975. The revised DA Master Schedule was forwarded to AMC for staffing on 2 May 1975.²³ The Basis of Issue Plan (BOIP) was forwarded by US Army Training and Doctrine Command (TRADOC) and to DA for approval on 25 February 1975.²⁴

Costs

(CS) From the beginning of the AAH program, the Army estimated that actual costs would exceed contract target costs. By July 1974, both contractors projected significant cost increases.²⁵

19

FY 76/77 AAH Congressional Testimony, 13 Mar 75.

20

Review and Command Assessment Projects, 27 Feb 75.

21

Review and Command Assessment Projects, 27 Feb 75.

22

Selected Acquisition Report, 31 Mar 75.

23

Review and Command Assessment Projects, 6 May 75.

24

Review and Command Assessment Projects, 6 May 75.

25

Selected Acquisition Report, 31 Mar 75

COMPETITION SENSITIVE

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COMPETITION SENSITIVE

(FOUO) The design-to-unit production-costs (DTC) for the 1.4 million to \$1.6 million goal represented only the recurring portion of flyaway costs in FY 1972 constant dollars. Guidance from OSD dated 11 July 1974 directed that the AAH DTC goal be changed to \$1.7 million flyaway cost to include unit non-recurring cost.²⁶

(CS) A DTC review of Phase 2 subsystems for both prime contractors was conducted October through December 1974 to review Phase 2 subsystem design status, determine subsystem configuration, and assess the contractor's estimating and tracking capability. The review revealed that the contractors were tracking and monitoring airframe DTC, but that subsystem DTC estimates were based primarily on vendor quotes received in 1973 with little or no update since that time. The PM updated the Government DTC estimate for Phase 2 subsystems as a result of this review.²⁷ A review to evaluate the airframe DTC status was held at Bell Helicopter Company from 28 April through 16 May 1975. A DTC review at Hughes Helicopters was planned for 1st quarter of FY 1976.

(CS) Cost Performance Report (CPR) - The Bell CPR at the end of June 1975 reflects an unfavorable cumulative schedule variance of 3% and an unfavorable cumulative cost variance of 23%. The Hughes CPR at the end of June reflects an unfavorable cumulative schedule variance of 11% and an unfavorable cumulative cost variance of 20%. The primary reasons for both contractor's variances are inflation, redesign, and material cost increases. The General Electric CPR for the same period indicates an unfavorable schedule variance of 1% and an unfavorable cost variance of 4%. The small magnitude of these two variances indicates that GE will complete the program on time and within the Government estimate ²⁹ which was slightly higher than the contract target costs. Cost Schedule Control System (CSCS) reporting to a revised schedule and cost baseline by the contractors to include the six-month schedule extension commenced in June 1975.

(CS) The Hughes Helicopters Latest Revised Estimate (LRE) was evaluated at the Hughes plant 27 through 30 August 1974. The Bell Helicopter Company LRE had been reviewed at the end of FY 1974.³⁰ This verification resulted in the Army decision to slip Phase 1 completion by six months. On 25 March 1975, the Hon. Norman R. Augustine,

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Review and Command Assessment Projects, 27 Feb 75

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Review and Command Assessment Projects, 27 Feb 75

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Review and Command Assessment Projects, 6 May 1975

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Department of the Army Report, 7 Aug 75

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Review and Command Assessment Projects, 27 Feb 75

COMPETITION SENSITIVE

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ASA(R&D), expressed a desire to get some control on initial production costs while the competition still existed. The AAH Project Manager subsequently visited the Air Force F-15 SPO to discuss production options as applied to that program. The PM then proposed consideration of some limited overlap between Phase 2 and production to achieve earlier production deliveries and reduce production costs.³¹ In order to accomplish production overlap with development budget profiles, increased funds were required for earlier fiscal years. The acceptability of this course of action was unknown at the end of FY 1975.

Airframe Development

(FOUO) Ground Test Vehicle (GTV) Bell achieved initial operation on 19 April 1975 and Hughes on 22 June 1975. Concurrent with GTV preparation, both contractors have been fabricating their number 2 and 3 vehicles. The number 2 vehicle was the first flight article for both contractors and both were scheduled to complete "first flight" by 30 September 1975.³²

(CS) The Bell Gross weight estimate increased 252 pounds as the vehicle design progressed from that initially proposed to current status. A design change to the main rotor airfoil was incorporated to improve rotor lift. Fluctuations in weight growth and rotor performance caused erratic performance movement. A more stable trend was expected with design completion.³³

(CS) The Hughes gross weight estimate increased 245 pounds from inception to date. Reduction in vertical flight performance was directly associated with this weight increase.³⁴ Hughes determined the original design of the horizontal stabilizer was so positioned that main rotor downflow would impinge on the tail section, which could result in undesirable hover and translation handling effects. Design placement of the avionics was determined to create adverse center of gravity characteristics. As a result of these two problem areas, Hughes redesigned the tail section to accommodate a "T" tail configuration. In addition, Hughes added sponsons, on both sides of the forward fuselage, for a bay to relocate avionics equipment.³⁵

31

Review and Command Assessment Projects, 6 May 1975

32

Review and Command Assessment Projects, 27 Feb 1975

33

Review and Command Assessment Projects, 6 May 1975

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Review and Command Assessment Projects, 27 Feb 1975

35

Review and Command Assessment Projects, 6 May 1975



Engine Development

(FOUO) General Electric's engine delivery schedule was revised to be consistent with the delayed program schedule.³⁶ The T-700 engine successfully completed its preliminary flight rating tests in July 1974.³⁷ Delivery of the first government furnished engine to contractors was accomplished during August 1974. Two ground-rated engines were delivered to each contractor by the end of January 1975. A total of 36 engines will be delivered during the Phase 1 development.³⁸ The engine program was on schedule during this period and deliveries of prototype engines to the contractors was in progress.³⁹

Subsystems Development

(U) On 4 October 1974, AMC tasked the AAH PM to review the AAH/HELLFIRE (Heliborne Laser Fire and Target Missile System) schedules and their interface to update previous information concerning replacing the TOW Point Target System with HELLFIRE. Results of the completed review, which was conducted jointly by HELLFIRE PM and AAH PM personnel, were forwarded by letter dated 5 November 1974 and indicated cost and schedule impacts if the HELLFIRE missile system was integrated into the AAH.⁴⁰ Both contractors were sent the technical data on the HELLFIRE Modular Missile System and were requested to provide cost and performance impact statements for installation of a laser HELLFIRE system in addition to the currently planned TOW Missile System, with the option of HELLFIRE replacing TOW. A memorandum of agreement was prepared jointly by the AAH PM and HELLFIRE PM on the management aspects of integrating HELLFIRE into the AAH.⁴¹

(U) Conclusions from test data show that the night target detection and recognition ranges required in the AAH MN and system specification are readily achievable with current technology with the copilot-gunners night sight. A follow-on evaluation, using Army pilots was expected to give the user an opportunity to refine the pilot night vision requirements for the AAH.⁴²

36

Selected Acquisition Report, 31 December 1974

37

FY 76/77 AAH Congressional Testimony, 13 March 1975

38

Review and Command Assessment Projects, 27 February 1975

39

FY 76/77 AAH Congressional Testimony, 13 March 1975

40

Review and Command Assessment Projects, 27 February 1975

41

Review and Command Assessment Projects, 6 May 1975

42

Review and Command Assessment Projects, 6 May 1975

Testing

(U) In accordance with AMC's letter and guidance dated 21 January 1975, concerning single integrated development test cycle policy, an initial coordination meeting with Army Materiel Systems Analysis Agency (AMSAA) was held on 20 March 1975.⁴³ The AAH approach to the TIWG (Test Integration Working Groups) was to complete Phase I testing as scheduled, but to go to single integrated testing during the Phase 2 program.

Government Reviews and Briefing

(U) The DAPR was briefed to AMC and DA on 12 September 1974 and quarterly submissions were prepared as of 30 September 1974, 31 December 1974, 31 March 1975, and 30 June 1975. RECAP's were submitted 27 February 1975 and 6 May 1975. On 5 February 1975, Secretary H. R. Staudt was briefed by the AAH PM on program progress and status.⁴⁴ On 27 and 28 February 1975, the proposed Phase 2 source selection plan for the AAH for recommendation to the Source Selection Advisory Council was presented to the AMC Deputy Commanding General, LTG W. W. Vaughan and then to Mr. Augustine, both of whom found the concept acceptable.⁴⁵

(U) AAH Congressional Testimony - On 13 March 1975, the AAH PM briefed the Senate Armed Services Subcommittee on the AAH program status and the AAH budget request for fiscal years 1976, 77 and 1977. The committee's report in the authorization bill subsequently provided for funding of the program for FY 1976 and 77 with deletion of Phase 2 PDLTI.⁴⁶ Then on 25 March 1975, the AAH PM met with Secretary Augustine to discuss obligation of FY 1976 funds (including payback), Phase 2 PDLTI, production cost control, and development/production overlap.⁴⁷

Contractors Reviews and Briefings

(CS) Project Progress Reviews (PPR) were held on 10 December 1974 and 23 April 1975 at Hughes Helicopters and on 17 December 1974 and 24 April 1975 at Bell Helicopter Company. Program status and details of the six-month schedule extension were highlighted.⁴⁸ A tri-service demonstration of the Hughes Management Control System (C/SCSC) was held from 15 July through 2 August 1974. Eighteen deficiencies were noted in the final demonstration report.⁴⁹ On 19 November 1974, after

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Review and Command Assessment Projects, 6 May 75

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Review and Command Assessment Projects, 27 Feb 75

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Review and Command Assessment Projects, 6 May 75

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Review and Command Assessment Projects, 6 May 75

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Review and Command Assessment Projects, 6 May 75

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Review and Command Assessment Projects, 27 Feb 75 and 6 May 75

⁴⁹

Selected Acquisition Report, 30 Sep 74

corrective actions were effected, Hughes Helicopters was awarded a tri-service validation for the AAH and all future research and development contracts by MG G. Sammet, Deputy Commanding General for Materiel Acquisition.⁵⁰

Mechanized Infantry Combat Vehicle (MICV)

Physical Characteristics

(U) The Mechanized Infantry Combat Vehicle (MICV) reflects a new concept of armored infantry operations compared with the M113 Armored Personnel Carrier (APC) vehicles. The XM 723 MICV will permit the infantry squad to fight from within the vehicle, while the M113 is strictly a personnel carrier. The MICV is designed to carry 12 troops with their combat equipment. Six periscopes and weapon firing ports are located in the troop compartment, two in each side and two in the rear. This arrangement enables the squad members to deliver controlled small arms fire from inside the vehicle and permits visual orientation by personnel during vehicle movement.

(U) In addition to the firing ports, the XM723 weapon station will employ the vehicle rapid fire weapon system successor (VRFWS-S) as its primary armament system and a coaxial 7.62mm M60E2 (mod) machine gun. The fully-powered, stabilized gun, with manual back-ups, provides excellent target acquisition. The gunner, commander and driver will also be provided with day and passive night vision.

(U) The MICV power plant will provide a horsepower to weight ratio in excess of 20HP/ton. The engine proposed is the Cummins VTA 903. This is a diesel fueled, four-cycle engine, rated at 450 gross horsepower. The General Electric XM-2 transmission is fully automatic and features hydrostatic steering.

(U) The suspension system provides high wheel travel (14"). The increased wheel travel, along with a low ground pressure of 7.0 PSI, provides the MICV with greater cross-country mobility than the M113.

(U) Conventional aluminum armor and a space laminate of high hardness steel on the sides and rear of the hull will provide protection that meets the requirements of the Materiel Need (MN) for Engineering Development.

50

Review and Command Assessment Projects, 27 Feb 75

Organization and Mission

(U) The Project Manager's Office, Mechanized Infantry Combat Vehicle, 28150 Dequindre, Warren, Michigan, 48090, was established by AMC in January 1968, and currently (July 1975) operates under the provisions of AMC General Order No. 245, 1 September 1973. Colonel James F. McCluskey, OrdC, was named and remains the MICV Project Manager.

(U) The Project Manager, MICV, was made responsible to the Commanding General, AMC, with full authority for the development, acquisition and fielding of the Mechanized Infantry Combat Vehicle. He has responsibility for planning, directing and controlling the allocation and utilization of all resources authorized for execution of the approved project. This extends from definition, development and initial procurement, through production, engineering, product assurance, distribution and integrated logistic support to accomplish project objectives. He must also assure that planning is accomplished by organizations responsible for complementary functions of logistics and maintenance support personnel training development and operational testing and deployment of assigned systems. In addition, he provides general administrative support for all organizational elements and provides liaison services at the contractor's facility for all organizational elements. The Project Manager has the support of offices and organizations within AMC and participating organizations which are responsible for directing other customer procurement as required. An organization chart is shown at Figure 16.

Management

(U) Colonel James F. McCluskey was designated the Department of the Army Project Manager for the Mechanized Infantry Combat Vehicle (MICV) effective 19 July 1973.⁵¹ The Project Manager reports directly to the Commanding General, US Army Materiel Command (AMC).

(U) The project charter⁵² was revised and approved by Secretary of the Army, Howard H. Callaway, on 5 February 1974. The Project Manager was delegated full line authority for the centralized management of the project, responsible for planning, directing and controlling

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AMC General Order No. 254, 19 September 1973.

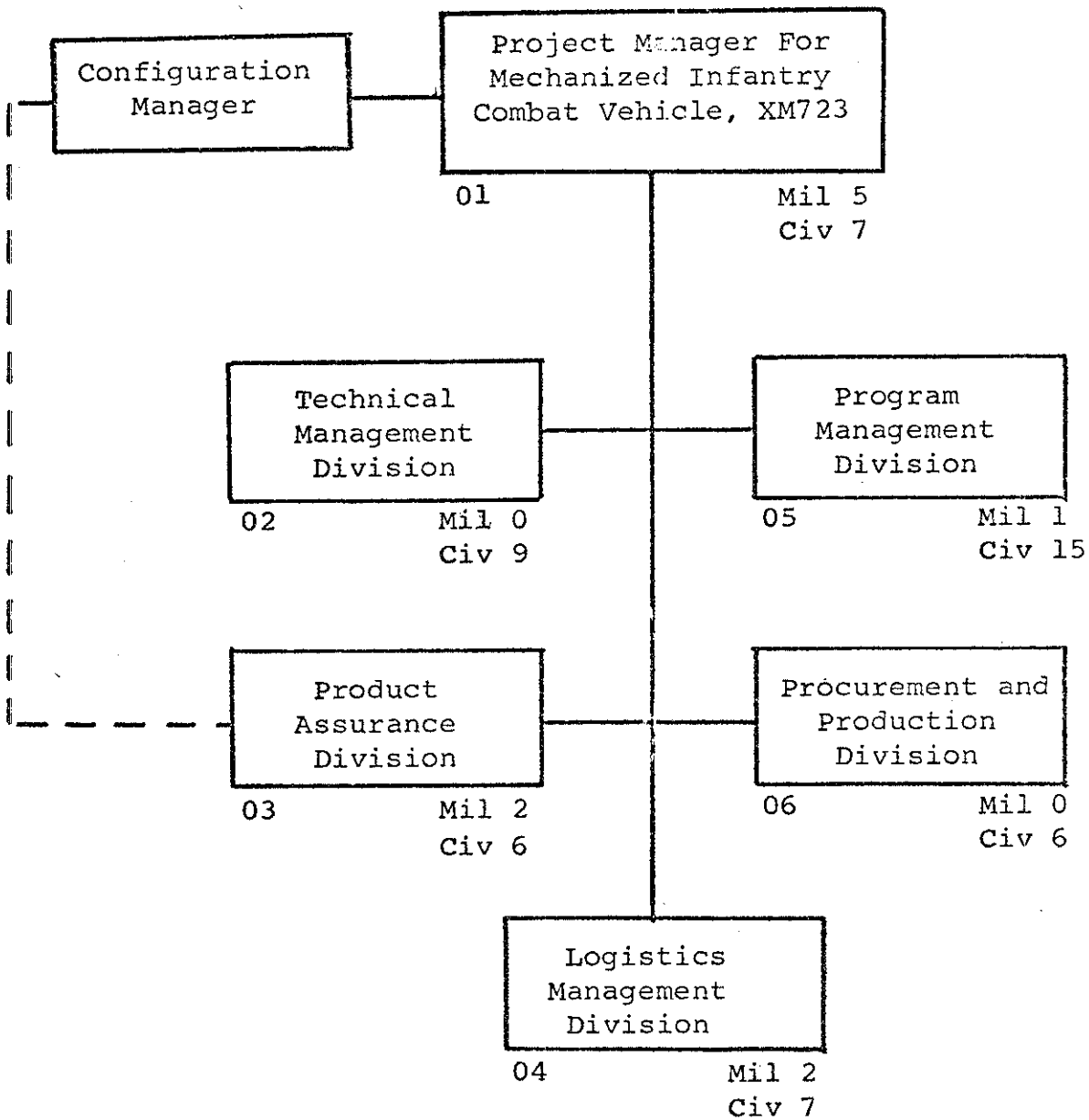
⁵²

Project Manager Charter, Mechanized Infantry Combat Vehicle, Secretary of the Army, 5 February 1974.

PROJECT MANAGER

MECHANIZED INFANTRY COMBAT VEHICLE

(MICV XM723)



Total Strength
 Mil 10
 Civ 50
 60

Figure 16

the allocation and utilization of all resources authorized for execution of the project. Necessary facilities and support are provided by TACOM, other organizations with AMC and other participating organizations.

(U) The charter includes the specific responsibility for establishing and maintaining a system for contractor performance measurement in the areas of cost, schedule and technical performance. Cost/schedule Control System Criteria (C/SCSC) was incorporated into the ED/PEP contract with the FMC Corporation. It includes monitoring and analyzing the variances between the amount of work planned (BCWP) and that accomplished (ACWP), and between the planned expenditures (BCWS) and the actual costs (ACWP). As a result of these analyses of contractor performance, FMC management and the Project Manager identify potential or incipient problem areas and develop and implement actions to overcome the problems with minimum adverse effect upon the program.

Resources

(U) Army resources are provided, after administrative processing through Headquarters, AMC, and Headquarters, US Army Tank-Automotive Command (TACOM), directly to the Project Manager to accomplish his mission as reflected in the Five Year Defense Plan (FYDP). During Fiscal Year 1975, the MICV Project Manager received a total of \$11.7 million RDT&E program authority for the XM 723. These resources were used predominantly for contractual activity (\$9.7 million), PMO operating costs were \$1.1 million. TACOM and other Government agencies' support amounted to \$.9 million.

Engineering Development/Producibility Engineering and Planning (ED/PEP) Contract

(U) The Request for Proposal (RFP) was released on 11 April 1972. Proposals were received on 11 September 1972 from Chrysler Corporation, FMC Corporation, and Pacific Car and Foundry Company. Each offeror was requested in the RFP to submit with his proposal a full-size wooden mock-up that provided vital, tangible clarification of many interfacing and conceptual areas such as arrangement of major components, space allocation, seating arrangement, entry and exit capability, ease of maintenance, stowage, and human factors engineering. The mock-ups were particularly valuable for assessment by the user representatives in the source selection organization.

(U) Source selection was conducted in accordance with DOD, Army and AMC source selection procedures. The Source Selection Evaluation Board (SSEB) completed their evaluation and reported to the Source Selection Advisory Council (SSAC), 4 November 1972. A management audit, independent of the SSEB activities, was conducted

at each offeror's plant and results were presented to the SSAC by the management audit team, 4 November 1972. The SSAC conducted their analysis of the SSEB report and management audit and recommended FMC Corporation as the source. The recommendation was presented to the Source Selection Authority (SSA), 10 November. The SSA made the source selection decision on 20 November and briefed the Commander, AMC, who assisted in obtaining DA and DOD approval.

(U) After completion of negotiation and source selection, a contract in the amount of \$29,260,000 was awarded 22 November 1972 to FMC Corporation, San Jose, California. Cost of the ED portion was \$22,000,000 and the PEP portion \$7,260,000. The contract is cost-plus-incentive-fee (CPIF) with incentives on performance and cost for ED and on cost only for PEP. The major aspects of this contract are: performance of design and development; fabrication of two test rigs, one prototype and 12 ED vehicles equipped with the GFP M139 weapon; provide support during conduct of DT II by the Government; preparation of a technical data package; fabrication and delivery of four pilot vehicles; and support Government test and evaluation of the PEP vehicles.

(U) In December 1973, FMC advised the MICV PM that a four-month slip in the contract delivery schedule was necessary to provide adequate time between the start of the test rigs and prototype vehicles durability tests and the delivery of ED vehicles for Development Test II/Operational Test II (DTII/OTII). Late delivery of components due to the current saturated state of the national economy and the energy shortage of 1973-74 was largely responsible for the schedule slip. Holding the present delivery schedule would have resulted in unnecessary expenditure of additional funds, and would have precluded FMC from incorporating and adequately testing redesigned components as required to achieve reliability and durability required by contract specification. The contract delivery schedule was extended by four months in June 1974.

(U) Test reports submitted by FMC in the early months of 1974 for the test rigs and prototype vehicle indicated serious technical problems on the transmission and other major components. Several meetings were held with FMC to discuss these problems and their possible resolution. In May 1974, the MICV PM and FMC discussed the possibility of re-aligning the ED program to achieve contract requirements on an optimum cost effective basis. In accord with this discussion, FMC submitted a realistic get-well proposal to include increased contractor vehicle testing prior to DT II/OT II by an additional 23,000 miles for a total of 53,000 miles. Two additional ED vehicles would be provided the contractor for this increased testing and the number of DT II/OT II vehicles would be reduced from 11 to 9. The realignment would then delay the start of DT II/OT II by five months, from March 1975, to August 1975.

(U) To further concentrate on hardware, the contractor proposed suspension of all unrelated software activities and other indirect efforts not required for the correction of technical problems. ED realignment also included a proposed change in the contract incentive structure from cost and performance to incentive on cost only. FMC implemented the contract realignment and submitted their proposal in June 1974. The new ED/PEP contract delivery schedule, when implemented by modification, will be 53 months in duration with completion in April 1977. The contract will reflect the following phases and dates for implementation:

<u>Phases</u>	<u>Starting Date</u>	<u>Completion Date</u>
Engineering Development/ Producibility Engineering & Planning (ED/PEP)	Nov 72	Apr 77
DT II/OT II Test	Aug 75	Aug 76
Low Rate Initial Production (LRIP)	May 78	Feb 80
Full Scale Production	Mar 80	Nov 81

(U) The plan to integrate the Bushmaster Weapon system with MICV during full scale production has been indefinitely deferred. The VRFWS ASARC/DSARC decision to contract for ED/PEP in September 1974, was postponed and the MICV PM was directed by AMC to plan for the M139 product improved weapon system with dual feeder for the MICV in ED, PEP, LRIP and production.

Logistical Support

(U) During FY 1975, the Logistics Management Division made a concentrated effort to promote logistical support and to involve the contractor energetically and effectively in the use of Maintenance Engineering Analysis Data Systems (MEADS) and Integrated Logistics Support (ILS). A maintenance evaluation was held at the contractor's plant during the 2d Qtr, 1975. Extensive user participation was utilized during the maintenance tear down. As a result, 145 discrepancies were found. Approximately 75% of the discrepancies found have resulted or will result in design changes. Seven of these have been submitted as potential cost reductions of which three have been validated for a total cost savings of \$612,845. During the evaluation, review of preliminary draft manuals and preliminary maintenance allocation charts pertaining to the MICV System and relative components was made.

(U) The PM Office provided the contractor sufficient MILVANS for use as repair parts storage containers. The first container was shipped to Yuma Proving Ground with ED 4 with complete logistical support. Supply actions appropriate to our position have progressed without incident and the procurement of GFE items so far has been successful.

(U) As a result of the contractual teardown, maintenance evaluation and new equipment training at FMC, development of the MICV MEADS data has been advancing from allocated to actual data. Early involvement of the user was initiated, and with the cooperation of TRADOC (Ft. Benning Infantry Board) a squad of infantry was available for familiarization and actual participation in a movement, access, egress, and utilization of the MICV as a troop carrier and comments were solicited. This included storage of combat equipment, participation of the infantry squad in combat uniform to include individual weapons. The comments made were straightforward and realistic and made by personnel actually designated as potential users.

(U) The MICV development contract implements a logistics data system in the FMC Corporation's management organization. In fiscal year 1975, the system became operational and its LSA outputs are forming a data basis for "early influences upon design," "performance" and "cost."

Integrated Logistic Support Plan (ILSP)

(U) The objective of this plan was to insure timely and effective management, planning, acquisition and control of logistic support throughout the entire life cycle of the vehicle system. Within the framework of the plan, the Maintenance Support Plan was revised to reflect Materiel Need and System Specification changes prior to the start of Development Test and Operational Test (DTII/OTII).

Basis of Issue (BOI)

(U) The Basis of Issue of production vehicles during the late 1970's was planned to be on a selective basis. It was not intended that the MICV replace all of the M113 fleet currently in service in 1974. Replacement was to be made on the basis indicated in the Tentative Basis of Issue (TBOI) as approved in 1969 by the Vice Chief of Staff.

Training Device Requirement (TDR)

(U) The Continental Army Command in July 1970, prepared a Draft Proposed Training Device Requirement (DPTDR), describing the Army's need for a maintenance and gunnery weapon station trainer for MICV that will permit reliable, economical and effective year round training for both maintenance and user personnel. The DPTDR was coordinated with all services, major US Army Commands, and Armies of

friendly foreign governments. Appropriate comments were received and incorporated in the final DPTDR. CONARC forwarded the DPTDR to Department of the Army for approval to enter Engineering Development (ED) July 1972.

(U) The DPTDR was staffed and approved by HQDA November 1972 subject to incorporation of DA comments. DA comments were reviewed by CONARC and MICV PMO and incorporated into the TDR. The approved TDR was released for worldwide distribution by CONARC in December 1972, and a trainer specification had been developed in coordination with CONARC and Army Training Device Agency. The finalized trainer specification was assigned Document No. AT-TS-1004-001 by TACOM and disseminated to all interested services and major commands, 6 February 1974. Trainer Development Plan describing the trainer development program was incorporated as Appendix F to the MICV System Development Plan, 31 July 1974.

(U) In view of the latest decision to go into production with the M139 weapon and based on the present status of the Bushmaster program, it has been decided that MICV weapon station trainers are to be developed employing the M139 gun as primary weapon. The weapon station training devices development is scheduled to start with award of a contract in January 1976 with DTII/OTII testing during Feb-Nov 1977, and production beginning in March 1978. Engineering Development of the weapon station training devices is to be primarily based on the MICV weapon station requirements and part of the MICV System Development Program.

Vehicle Hardware

(U) During this period, the testing of the prototype and two rigs was completed with 30,000 miles accumulated. Although previous failures have been corrected, the transmission continues to experience new failure modes. Suspension system failures have all been corrected. Also, during FY 1975, three ED vehicles were completed and subjected to 8,700 miles of testing at Yuma Proving Ground; Camp Roberts, California; and at the contractor's test courses in San Jose and Hollister, California. The remaining 7 ED vehicles were in various stages of completion or acceptance during this period. The transmission endurance testing at General Electric has been completed with 12,600 miles and 700 dynamometer hours.

(U) A low level back-up transmission program was pursued during this period. The contractor, utilizing IR&D funds, is retrofitting the MICV rig to accept the Allison X-300-4a transmission. The two TACOM procured Allison transmissions have been completed and have undergone 1,400 miles of vehicle testing and 53 hours of dynamometer operation, respectively. One of these transmissions will be installed in the MICV rig and tested for 6,000 miles.

Periscope

(U) On 19 January 1973, a meeting between USACDC and MICV PMO directed immediate procurement and installation of a modified M36 (M36E2) periscope into the MICV test rigs, prototype and ED/OT II vehicles. The MICV vehicle system specification was revised to reflect the use of this periscope.

Weapon Station

(U) The weapon station has progressed normally through its development cycle. Approximately 50,000 rounds of primary (20mm - M139) and 40,000 rounds of secondary (7.62mm - M60E2) ammunition have been fired from the MICV test rig, prototype and ED weapon stations through 1 July 1975. Problems were encountered in the areas of sight vibration and EMI susceptibility. Additional testing and design analysis is scheduled to resolve these difficulties.

Project Manager's Assessment and FY 1975 MICV Status

(U) In February 1975, BG Stan R. Sheridan who had become project manager of MICV on the previous July, wrote to the AMC Commander, General J. R. Deane, assessing the MICV program.⁵³ General Sheridan wished to apprise General Deane regarding an extensive 8,000 mile testing of the MICV at the Aberdeen Proving Ground and the Yuma Proving Ground about steps taken to overcome problems highlighted during the testing. At this time, General Sheridan had been Project Manager of MICV approximately seven months, and looking back to July 1975, General Sheridan noted that the MICV had only one serious problem when he took control of the project. That problem was the General Electric transmission. In over 18,000 miles of testing, the transmission failed 13 times and showed a reliability of only 1,780 miles between failures compared to an allocated requirement of 6,440 mean miles between failure.

(U) Other problems uncovered by the testing included a vehicle tendency to throw tracks and an unsatisfactory performance of weapon station hydraulics and the processing of ammunition from the ammo box to the gun chamber. General Sheridan informed General Deane that he had taken certain steps which he considered imperative to overcome the problems which had to be overcome prior to a production decision.

(U) First, General Sheridan stopped formal government testing which he considered counterproductive in that they were giving the MICV a bad name, wearing out assets, and resulting in excessive downtime. General Sheridan planned to resume formal government testing on

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Letter, DRCPM-MCVS to the Commander, US Army Materiel Development and Readiness Command, 4 February 1976 - Sheridan to Deane.

MICV SYSTEM ... PROJECT DOCUMENTS LIST

DOCUMENT	PREPARED BY	APPROVED BY	DATE OF BASIC DOCUMENT	DATE OF LATEST REVISION	STATUS
SYSTEM DEVELOPMENT PLAN (SDP)	PM	AMC	FEB 69	NOV 72	APPROVED
COORDINATED TEST PROGRAM (CTP)	PM	AMC	MAY 70	NOV 72	APPROVED
MATERIEL NEED (ED)	TRADOC AMC	DA	OCT 70	SEP 72	REVISION IN PROCESS
INTEGRATED LOGISTIC SUPPORT PLAN (ILSP)	PM	AMC	DEC 68	JUL 75	CURRENT
DEVELOPMENT CONCEPT PAPER (DCP)	PM	OSD	OCT 70	SEP 72	REVISION IN PROCESS
BASIS OF ISSUE (BOI)	DA	DA	APR 69	APR 72	CURRENT
ADVANCE PROCUREMENT PLAN (APP)	PM	DA	MAY 68	NOV 73	UPDATE
ED/PEP CONTRACT	PM	AMC	NOV 72	MAY 74	CONTINUING CONTR. MODS
BASELINE COST ESTIMATE	PM	DA	DEC 70	OCT 73	APPROVED
SYSTEM SPECIFICATION	PM	AMC	DEC 68	NOV 72	REVISION IN PROCESS
DA MASTER MILESTONE SCHEDULE	PM	DA	APR 71	AUG 73	APPROVED
TRAINING DEVICE REQUIREMENTS	TRADOC PM	DA	NOV 72	MAR 73	APPROVED

Figure 17

As of 1 July 75

FY 74	75	76	77	78	79	80	81	82	83
CY 74	75	76	77	78	79	80	81	82	83

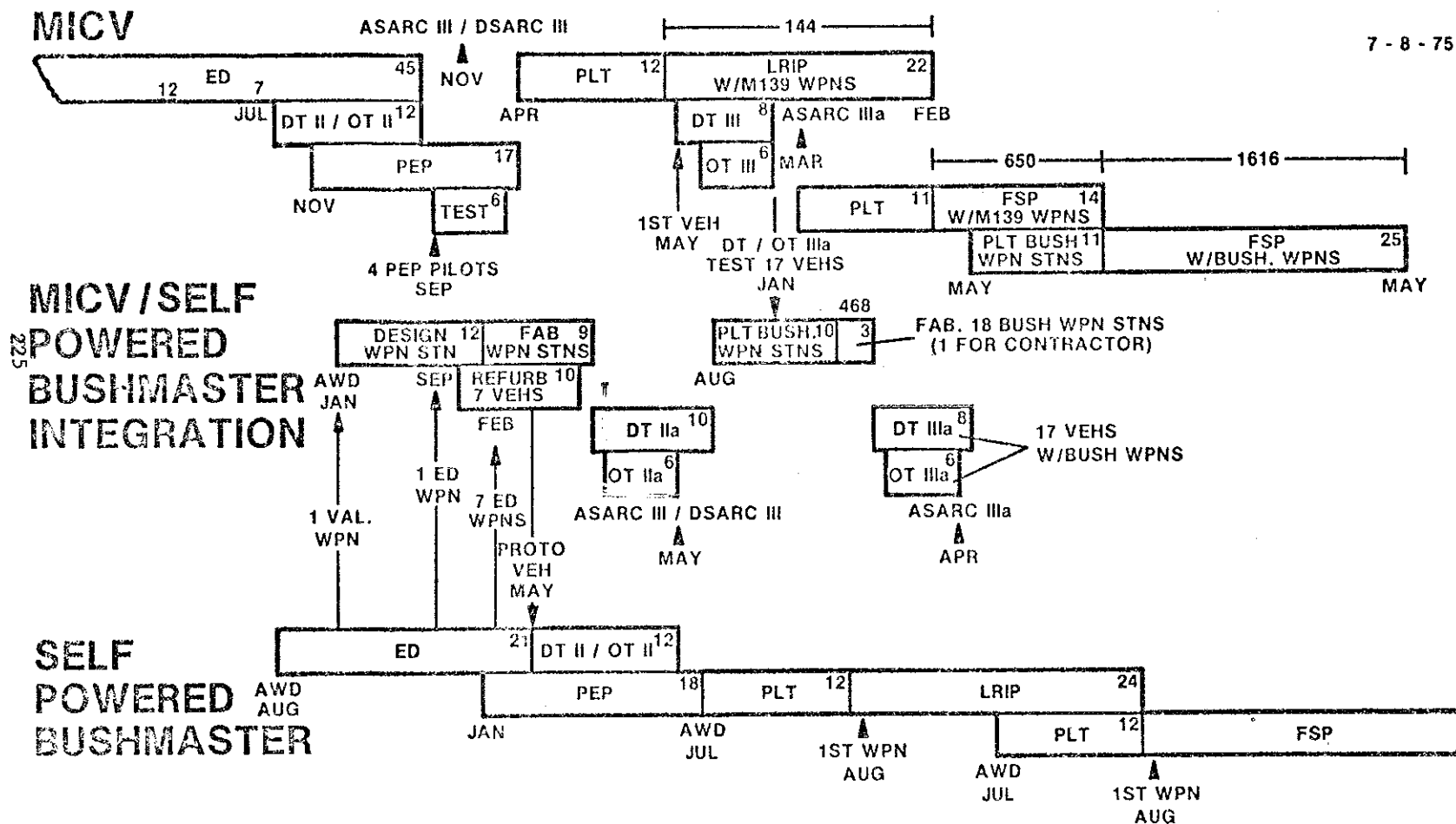


Figure 18

schedule, 1 October 1976, after all problems had been corrected and a reliable vehicle could be evaluated.

(U) During the intervening eight month period, General Sheridan intended to implement a transmission back-up program and install four transmissions in MICV's to run competitively in both the Development Test II and the Operational Test II. In competition would be Allison and General Electric transmissions. At the same time, the reliability program of the General Electric transmission was to be accelerated. General Sheridan wished General Electric to demonstrate, prior to October, the effectiveness of a transmission corrective proposal. If it failed, General Sheridan planned to cancel the General Electric program. If General Electric was successful, then the two systems would enter competition to determine the final production model based upon cost and performance.

(U) General Sheridan wished to emphasize to General Deane that he considered the MICV a winner, that the testing delay would not delay the program beyond limits allowed in the original program, and that even though there were cost problems, he planned to conduct the program without asking for additional funds. Figures 4 and 5 indicate the status of the MICV program at the close of FY 1975.

Utility Tactical Transport Aircraft System (UTTAS)

Organization and Staffing

(U) BG Jerry B. Lauer was designated Department of the Army Project Manager for the Utility Tactical Transport Aircraft System (UTTAS), effective 23 September 1974, by the Project Charter signed by the Honorable Howard H. Callaway, Secretary of the Army. BG Lauer succeeded BG Leo D. Turner and was given full line authority of the AMC Commander for execution of the UTTAS project, including all phases of planning, developing, and fielding the UTTAS. At the beginning of Fiscal Year 1975, the personnel authorization of PM UTTAS was 71 civilians and 5 military. The TDA average grade was 10.1690. At the end of Fiscal Year 1975, it was 10.2639. There was no change in the authorization until March 1975, when AMC increased UTTAS authorization one civilian space. The onboard strength at the beginning of Fiscal Year 1975 was 72, 67 civilians and 5 military. The average grade was 9.8955. At the end of Fiscal Year 1975, the strength was 67 civilians and 8 military with an average grade of 10.2089.

Funding

(U) The Fiscal Year 1975 RDT&E Program as of 30 June 1975 was \$52,660,000.00 This consisted of \$40,660,100.00 for Airframe Program Project Number 1X264206D378, and \$11,999,900.00 for Engine Program Project Number 1X264206D189. The Fiscal Year 1975 program obligation authority of \$57,290 million as of 30 June 1975 included Fiscal Year 1975 obligation authority of \$52,660 million and unobligated balance carryover of \$4,630 million from Fiscal Year 1974.

T700 Engine Program

(U) Contract Number DAAJ01-75-C-0844 for manufacturing methods and technology required to develop efficient machinery and processes for the manufacture of Blisk (Blade Disk) and impeller elements for the T700 GE Engine (Phase I) was awarded to General Electric on 11 June 1975. The amount of contract was \$687,800. Completion date of contract for Phase I was set for June 1977. The T700 Engine Maturity Contract DAAJ01-75-C-0360 in the amount of \$37,682,300 was awarded to General Electric on 6 March 1975 for continued development of the T700 Engine throughout June 1978. The Secretary of the Army Letter 10 June 1975 designated members of the Source Selection Advisory Council for the UTTAS. Engine and airframe contractors progress was reported by means of the Program Progress Review Meetings conducted as follows:

General Electric	3 - 4 Oct 74
	27 - 28 May 75
Sikorsky Aircraft	22 - 23 Aug 74
	4 Dec 74
	16 - 17 Apr 75
Boeing-Vertol	16 - 17 Jul 74
	20 Nov 74

T700 Engines were delivered as follows:

	74/	JUN	JUL	AUG	SEP	OCT	NOV	DEC	75/	JAN	FEB	MAR	APR	MAY	JUN
XT		4	3	3											
YT			1	2	3	4	3	6		5	2	0	0	0	1

(CS) The official Preliminary Flight Rating (PFR) Endurance Test of the T700 engine was completed 3 July 1974. Dirty and clean hardware inspections were held at GE on 10-11 July and 23-25 July 1974, respectively. An initial airworthiness release was granted 26 July 1974 to allow DCASO at GE to accept delivery of YT engines. The official PFR approval was released on 11 October 1974, after receipt and review of all the required formal reports.

~~COMPETITION SENSITIVE~~

(CS) General Electric delivered the first YT700 engine for the UTTAS program in July 1974, one month ahead of schedule. The first YT700 engine for the AAH program was shipped to Bell Helicopter Company in December 1974. On 6 March 1975, the engine maturity contract was awarded to General Electric Company.

(CS) The YT700 engine was granted a flight rating for operation with JP-5 fuel on 3 March 1975. In addition, flight ratings were issued on 6 March 1975 for Jet A and Jet A-1 commercial fuel, provided these fuels had an icing inhibitor. On 7 March 1975, the YT 700-GE-700 engine successfully completed the anti-icing test at the Naval Air Propulsion Test Center in Trenton, New Jersey. The T700 Salt Water Corrosion Test was successfully completed on 9 May 1975. After two weeks of exposure to a salt water environment, the engine showed little corrosion and power was less than 5%. The T700 MQT Power Turbine Overspeed Test was successfully conducted in May 1975. This test demonstrated five minutes of running at 126.5% of normal rated speed without failure.

Airframe Competition

(CS) Sikorsky completed the 100-hour Main Rotor Pre-Flight Whirl Test on 6 August 1974. Boeing completed this test on 3 November 1974. Boeing completed the 50-hour Tail Rotor Pre-Flight Whirl Test on 23 July 1974. Sikorsky completed this test on 3 August 1974. Sikorsky completed the Flight Controls Proof and Operation Test on 15 September 1974. Boeing completed this test on 2 November 1974. Sikorsky completed the 50-hour Preliminary Flight Acceptance Test (PFAT) on the Ground Test Vehicle (GTV) on 22 September 1974. Boeing completed the test on 16 November 1974. Flight testing of Boeing's three prototypes has commenced with the first flight dates as follows:

Aircraft 001	29 Nov 74
002	19 Feb 75
003	28 May 75

Flight testing of Sikorsky's three prototypes has commenced with the first flight dates as follows:

Aircraft 001	17 Oct 74
002	21 Jan 75
003	28 Feb 75

(CS) Both Boeing and Sikorsky manufactured a company-owned aircraft for commercial purposes. Sikorsky first flew their 4th aircraft on 23 May 1975. Boeing completed manufacture of their 4th aircraft, with first flight scheduled for 1st Qtr FY 1976. Loading demonstrations of both Boeing and Sikorsky UTTAS mockups in the C-130 and C-141 aircraft were completed in 2nd Qtr FY 1975. Air Force approval for transport of the prototypes was subsequently granted during FY 1975.

~~COMPETITION SENSITIVE~~

~~COMPETITION SENSITIVE~~

(CS) Sikorsky completed two 200-hour Pre-Qualification Overstress Tests on their main transmission. The first run was completed on 18 September 1974, and the second on 15 May 1975. Boeing completed the first 200-hour Pre-Qualification Overstress Test on their main transmission on 5 August 1974.

(CS) Sikorsky completed two 200-hour Pre-Qualification Overstress Tests on their tail and intermediate gear boxes on 12 August 1974 and 10 February 1975. Boeing completed two 200-hour Pre-Qualification Overstress Tests on their tail and intermediate gear boxes on 2 August 1974 and 4 May 1975.

(CS) Boeing completed two 200-hour Pre-Qualification Overstress Tests on their engine transmission (engine nose gearbox) on 2 August 1974 and 27 June 1975. On 2 May 1975, a Full Envelope Flight Release was given to both contractors. This cleared the way for conduct of all the surveys and demonstrations required by the Airworthiness Qualification Specification.

(CS) Boeing completed their 200-hour Ground Test Vehicle MQT test on 16 May 1975. Sikorsky completed their 200-hour Ground Test Vehicle MQT test on 14 June 1975.

Logistics Support Analysis

(U) Computer programs were installed at each contractor's plant for automation of the Logistic Support Analysis effort. The automation was produced in accordance with the Maintenance Engineering Analysis (MEA) Data System, TM 38-703-3. The MEA data is being transmitted by the contractor via computer tapes to AVSCOM's computer facility for hard copy printout.

Personnel Training and Training Device Analysis (PTTDAR)

(CS) The initial submission of the Personnel Training and Training Device Analysis Report (PTTDAR) was received from each of the two prime UTTAS contractors and from the General Electric Company. The PTTDAR identifies special training, training aids/devices, other training hardware and TDA requirements for TRADOC schools.

(CS) Program Milestones

<u>Milestones</u>	<u>Schedule</u>	<u>Actual</u>
Delivery of First YT Engine	Aug 74	Jul 74
Delivery of XT Engines (4)	Jul 74	Oct 74
Issue RFP (Maturity-Engine)	Jun 74	Jul 74
Delivery of YT Engines (2)	Aug 74	Aug 74

~~COMPETITION SENSITIVE~~

~~COMPETITION SENSITIVE~~

<u>Milestones</u>	<u>Schedule</u>	<u>Actual</u>
Delivery of YT Engines (3)	Sep 74	Sep 74
Complete Eng PFRT 60 Hr Endurance	Sep 74	Jul 74
Receive Proposal (Maturity-Engine)	Aug 74	Sep 74
Pre-Flight Design Review Airframe	Oct 74	Oct 74
Delivery of YT Engines (4)	Oct 74	Dec 74
Contractor's First Flight (Sikorsky)	Nov 74	Oct 74
Delivery of YT Engines (3)	Nov 74	Nov 74
Dynamic Component PFAT 50 Hr (A/F)	Nov 74	Nov 74
Contractor's First Flight (Boeing)	Nov 74	Nov 74
Delivery of YT Engines (6)	Dec 74	Dec 74
Information DSARC	Unscheduled	Dec 74
Delivery of YT Engines (5)	Jan 75	Jan 75
Delivery of YT Engines (2)	Feb 75	Feb 75
Contract Award (Maturity-Engine)	Jan 75	Mar 75

XM-1 Tank

Introduction and Background

(U) During this period, the XML Tank System program was characterized by intensive performance and durability testing of each automotive chassis by Chrysler and General Motors Corporations, the competing prime contractors for the validation phase of the XML development. Each contractor completed the fabrication of his complete prototype validation vehicle, which would be undergoing intensive contractor testing during the Summer and early Fall 1975. The contractors accomplished this effort within the planned contract cost and schedule constraints.

(U) Noteworthy during the period was the consideration given to the German Leopard 2, which was also to be evaluated in late 1976, against the same US technical requirements as the Chrysler and GM prototype vehicles. The Federal Republic of Germany agreed to modify the Leopard 2 to meet US performance and cost constraints. The comparative test and evaluation will contribute to a goal of maximum standardization of the XML and Leopard 2 on the date of their introduction into the US and German armies. The US planned to initiate in July 1975, a jointly funded and managed study to investigate producibility of the modified Leopard 2 tank in the US.

(U) The objective of the XML Tank System program is to develop and field a main battle tank for use during the 1980s and beyond. The XML Tank System would have significant improvements in armor protection, mobility and firepower over the standard M60 tank.

Organization and Mission

(U) The Office of the Project Manager, XML Tank System, continued in FY 1975 as a separate Class II activity of Headquarters, US Army

~~COMPETITION SENSITIVE~~

Materiel Command with MG Robert J. Baer as the Project Manager. The project charter was renewed on 12 May 1975. The Project Manager was responsible for the development, procurement, production, testing, distribution, and logistical support of the XM1 Tank System and related ancillary equipment.

(U) To accomplish the assigned mission, the project manager's office was increased from 80 to 86 persons under a DA approved TDA MLW3TJAA00, effective 9 December 1974. The authorized strength included 20 military and 66 civilians. The complement of civilians was increased from 66 to 70 for a total strength of 90, effective 1 June 1975. Figure 6 depicts the organizational structure and key personnel of the Project Manager's Office as of 30 June 1975.

(U) The XM1 Tank System has been a high visibility project that demanded considerable effort to keep the principals in the chain of command and at Congress informed of progress. This effort paid dividends in terms of credibility and higher level support.

Management

(U) Of high priority for the XM1 project has been an integrated and responsible management information system. The XM1 Milestone Management System in use in FY 1974 was discontinued in December 1974. It served a useful purpose to present to the Project Manager the status of major project milestones which, for example, interfaced with contractor activities or were reported to higher headquarters. This system was replaced with the Schedule Control System (XM1 Regulation 5-2, dated 27 February 1975), a status board, showing significant work packages, milestones, sequencing of activities, and responsible action officer. This has proven to be a more refined program for displaying the status of major events, which have an impact on the timely accomplishment of our planned schedule. The effectiveness of this new, comprehensive management information system received continuing management interest.

(U) Effective 3 January 1975, the Acting Chief, Plans and Programs Division, reorganized to provide from his own resources, a Systems Analysis Office. The office reported directly to the Plans and Programs Division Chief. The objective for the establishment of the new office was to separate the planning and studies function from the manager responsible for day-to-day operations. The Systems Analysis Office management responsibilities included Cost and Operational Effectiveness Analysis, Decision Risk Analysis, DSARC Planning, and Schedule Control. In May 1975, it was decided that the Systems Analysis Office should be redesignated a Branch and staffed by a GS-14 Chief, 2 Majors, and a GS-04 secretary. A request for the above spaces was forwarded to AMC on 12 May 1975. Approval for the civilian spaces was received on 1 June. Similarly, the two O-4 positions were approved for manning in FY 1976 on 16 June 1975. At the end of FY 1975, recruitment action for the civilian positions was in process.

OFFICE OF THE PROJECT MANAGER, XM1 TANK SYSTEM, AMC
KEY PERSONNEL ASSIGNMENTS

AUTHORIZED STRENGTH
AUTHORIZED ASSIGNMENTS

OFFICE OF THE PROJECT MANAGER		AMCPM-GCM
PROJECT MANAGER	MG R. J. BAER	EXT 32662
DEPUTY PROJECT MANAGER	LTC(P) C. C. ADSIT	EXT 32284
EXECUTIVE OFFICER	LTC R. L. FEENEY	EXT 32184

Military		
Officers	19	15
EM	1	1
DA Civilians	66	62
TOTAL	86	78

WASHINGTON FIELD OFC		AMCPM-GCM-WF
CHIEF	LTC D. D. GILPATRICK	AUTOVON 284-9733

PROJECT OFFICE XM735		AMCPM-GCM-M
PROJECT OFF	LTC D. A. APPLING	EXT 31639

SECURITY & ADMINISTRATIVE OFC		AMCPM-GCM-A
CHIEF	MR. J. W. BRADLEY	EXT 32348

PROC & PRODUCTION DIV		AMCPM-GCM-C
CHIEF	MR. V. C. EMERSON	EXT 32328

PLANS & PROGRAMS DIV		AMCPM-GCM-P
CHIEF	MR. R. B. MAYO	EXT 31921
PROG BUDGET & FISCAL BR		-PB
CHIEF	MR. C. CIRINESI	EXT 32827
COST INFO & ANALYSIS BR		-PC
CHIEF	MR. W. RANSOM	EXT 32479
PLANS & OPERATIONS BR		-PO
CHIEF	LTC J. EVANS	EXT 32801

SYSTEMS ENGINEERING DIV		AMCPM-GCM-S
CHIEF	MR. E. TRAPP	EXT 32189
ASST CHIEF	LTC G. W. WILLIAMS	EXT 32347
SYSTEM INTEGRATION BR		-SI
CHIEF	MR. M. ARNOLD	EXT 32409
FIREPOWER BR		-SW
CHIEF	MR. L. A. WOLCOTT	EXT 32324
MOBILITY & ARMOR BR		-SM
CHIEF	MR. I. SMITH	EXT 32660
TEST MANAGEMENT BR		-ST
CHIEF	MR. A. CAPPARELLI	EXT 31639
ENGINEERING SUPPORT BR		-SE
CHIEF	MR. L. GERBACK	EXT 32445

MAILING ADDRESS:

PROJECT MANAGER, XM1 TANK SYSTEM, AMC
ATTN: AMCPM-GCM-(APPROPRIATE SYMBOL)

28150 DEQUINDRE
WARREN, MICHIGAN 48092

Figure 19

AUTOVON: 27 PLUS EXTENSION
COMMERCIAL: 57 PLUS EXTENSION

XML System Status

(U) The two prime contractors completed the fabrication and assembly of their automotive test rigs. Automotive performance testing and approximately 3,000 miles of the scheduled 6,000 miles of durability testing was completed on each test rig. Both contractors also completed the fabrication and assembly of their prototype vehicles and initiated the fabrication of their ballistic hulls and turrets.

Leopard 2 Tank

(U) The Federal Republic of Germany (FRG) effort toward "harmonization" of the XML and Leopard 2 tank programs dates back to August 1973. In a letter from Herr Leber, the FRG Minister of Defense to Dr. Schlesinger, Secretary of Defense, it was suggested that the two programs merge into an "Americanized" Leopard 2. Dr. Schlesinger replied that "it might be worthwhile for the FRG to study how the Leopard 2 could be modified, with minimum design impact, to meet US performance and cost constraints." This exchange, along with subsequent correspondence and discussions, culminated in the US/FRG Memorandum of Understanding (MOU) on harmonization of the XML and Leopard 2, signed on 27 November 1974 by the FRG and 11 December 1974 by the US. The MOU, as did negotiations leading to it, deals primarily with the US considering a modified Leopard 2 as an alternative to XML.⁵⁴

(U) There are three major provisions within the MOU. Both sides agreed to make all reasonable efforts to achieve maximum standardization of the XML and Leopard 2 on the date of their introduction in the two armies. The US Department of the Army (USDA) agreed to test a Leopard 2, modified by the Federal Ministry of Defense (FMOD) to meet USDA requirements, to the same ground rules and constraints established for the XML and include it in a comparative test and evaluation. The USDA was to initiate a jointly funded and jointly managed study to investigate producibility of the modified Leopard 2 tank in the United States.

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Letter, AMCPM-GCM-SF, 13 September 1974, subject: Memorandum of Understanding in US Testing of Modified Leopard 2 to Commander, USAMC and Chief, RD and A, DA from MG Robert S. Baer, PMXM-1 Tank, with MOU and related papers (in AMCHO Historical Sources File and 1st Indorsement, 18 September 1974, signed MG Sammet, DCGMA, AMC).

(U) The PM, XML has responsibility for implementing the MOU for the US.⁵⁵ Initially, the US requested that, in the interest of adhering to the XML Test Schedule, the modified Leopard 2 AV (Austere Version) prototype was to be delivered in February 1976 in order to compete against the Chrysler and General Motors prototypes. In these deliberations, care had to be taken to assure that there could be no eleventh hour contract challenges from the US firms. When it was determined that Krauss-Maffei could not deliver the Leopard 2 (AV) until September 1976, the US agreed that the prototype would then be tested and/or evaluated against the test data of the vehicle of the victorious US Contractor. An initial meeting between the PM, XML and officials of FMOD was held in Bonn in February 1975. It was agreed at that meeting to form a Test Working Group to negotiate the details involved in testing the modified Leopard 2. The Test Working Group met for the first time in April 1975 at Aberdeen Proving Ground, Maryland. Tentative plans were made to meet again in the FRG in September 1975 to complete plans for testing ballistic test sections beginning the following November. The Executive Group met for the second time in Warren, Michigan in April 1975. At that meeting, the major topic was to make plans for the producibility study.

(U) Under existing DOD and DA policy, the Army was obligated to contract with the FMC Corporation to conduct the producibility study because of a teaming agreement between FMC and Krauss-Maffei, the FRG manufacturer. On 26 June 1975, FMC Corporation presented changes to an unsatisfactory proposal which had been submitted earlier that now made it satisfactory to begin negotiations. The FMC proposal was for a 90-day interim effort with a proposal for the complete study due within 45 days after start of the contract. The PM, XML planned to negotiate by 15 July 1975, a letter contract with FMC covering the 90-day period.

(U) In an attempt to compete with the prototypes being built under contract by the Chrysler Corporation and General Motors Corporation, the Federal German Government has instructed Krauss-Maffei in Munich to modify the Leopard 2 battle tank to satisfy US Army requirements. Upon completion of this modification (September 1976) the

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Letter, DAMA-WSW-A, 27 January 1975, subject: Letter of Instruction for the Execution of the Memorandum of Understanding (MOU) on XML-Leopard 2 to the Commander, USAMC from MG Peter G. Olenchuk, Acting Asst. Dep. C/S for RD and A. (in AMCHO Historical Sources file).

Leopard 2 AV (Austere Version) will be tested and/or evaluated against the test data of the winner among the US competitors to determine which version the Army should adopt as its new main battle tank. As provided in the US/FRG Memorandum of Understanding, the FRG will also provide the US with an updated Automotive Test Rig (ATR) to be tested in FY 1976.

(U) In February 1975, General John R. Deane, Jr., newly assigned as the AMC Commander, extended an invitation to the Governments of Great Britain and the Federal Republic of Germany to establish liaison offices with OPM XML to observe the design and testing of the XML after completion of the competition sensitive validation phase. Both countries have expressed an interest in General Deane's proposal and are expected to offer suggestions regarding the implementation of the proposal in the near future.

XM-1 RAM (Reliability, Availability, and Maintainability)

(U) During FY 1975, a Memorandum of Agreement between AMC/TRADOC on Failure Definition and Scoring Criteria was signed. This memorandum provides the basis for quantifying and measuring the reliability characteristics of the XML Tank System. Both XML validation phase contractors have taken the initial steps to implement this Memorandum of Agreement. They have revised and published their Draft Reliability Failure Criteria Scoring Books to reflect the Mission Reliability Factor assigned values associated with the previously agreed to failure definitions.

(U) Also, during FY 1975, the contractors have been operating their automotive test rigs. As a result of this testing the contractors are implementing their closed loop failure analysis reporting systems, assessing and comparing chargeable failure incidents according to the criteria contained in their "Draft Reliability Failure Criteria Scoring for the XML Tank" books and assessing and comparing the present maintainability status (maintenance ratio) with projected values.

(U) Although, due to the competitive nature of the program no quantitative values can be cited at this time, it can be stated that generally the RAM aspects of both contractor programs indicate that the vehicle RAM minimum acceptable values can be met during the DT/OT III (Development Test/Operations Test III).

Technical and Testing Activities

(U) Engine, AVCR-1360 Diesel, at the end of FY 1975, the development of the engine at the TCM Corporation's facility was essentially complete, except for correction of field deficiencies. Among the development tests completed were submergence tests, cold start tests

and a 400-hour NATO durability test. Four engines fabricated to the latest configuration were delivered to General Motors, the prime contractor, for power package and vehicle tests. An M51 test rig for power package development was operated for 2,043 miles and the first 3,000 miles of a scheduled 6,000 miles of vehicle durability was completed in the GM XM1 Chassis test rig (CTR).

(U) Engine, AGT 1,500 Turbine. AVCO Lycoming completed component development on the design improvements for the AGT 1,500-C engine. A 200-hour design verification test was conducted with no problems. Three engines of the latest configuration were delivered to Chrysler for vehicle test. One engine has operated in the automotive test rig (ATR) for 2,000 miles. In addition, interim configuration engines operated 1,357 miles in the M51 test rig and 2,760 miles in the ATR.

(U) Transmission X-1100. The X-1100 transmission development has continued under the two XM1 vehicle prime contractors (GM and Chrysler). The development testing was being conducted with both the AVCR-1360 diesel and the AGT-1500 gas turbine engines. Two equivalent 6,000 mile automatic durability tests (tape) were completed in the laboratory with the diesel engine and a similar tape test was initiated with a turbine engine. Vehicle tests by the prime contractors were continuing with both engine types.

(U) Suspension System. The development of the suspension systems continued under the two XM1 vehicle prime contractors. Laboratory testing was conducted on the spring and damping systems as well as track components. Vehicle test rig evaluation and durability were conducted with the contractors' test rigs.

(U) Weapon System. Selection of a main weapon system still remains contingent upon the future threat assessment and by the outcome of the Tripartite FRG/UK/US Tank Armament Evaluation Program, which started in 1974. All scheduled testing was completed and the evaluation was to be completed in August 1975. Final selection was scheduled for September 1975. The Bushmaster Program was evaluated during 1975 by the user for the purpose of reconfirming the need for a 25mm weapon system for the MICV. Specifically, this evaluation did not consider the XM1 Tank System or tanks in general. During this same period, the Tank Special Study Group was studying the requirement for a Bushmaster or other weapon system for use during FSED Phase on the XM1. This decision was to be made prior to ASARC II. The XM1 requirement for using the M85, .50 caliber machine gun as a coaxial interim weapon for the Validation Phase remained unchanged. In the commander's station the M85 machine gun was externally mounted and integrated into the overall vehicle system, while an M60D, 7.62mm machine gun was externally mounted at the loader's station.

(U) Protection vs Weight. Each contractor succeeded in staying within the Materiel Need band of 49-58 tons for the vehicle in its combat configuration. The contractors were keenly aware of the constraint in the vehicle weight, while continuing refinements in the armor design to optimize the ballistic protection levels.

(U) Electronic Warfare. The assessment of the XM1 Tank System vulnerability to the electronic warfare threat continued during this fiscal year. Countermeasures to the threat were to be evaluated and ranked according to the XM1 mission functions, program schedule and cost impact. Plans were for threat simulation and analysis to predict the impact of hostile electronic warfare and to recommend solutions.

Electromagnetic Compatibility/Electromagnetic Interference (EMC/EMI)

(U) EMC/EMI. The EMC/EMI evaluation of the communication equipment continued during FY 1975. This effort would provide EMC/EMI information for application to other vehicles as well as the XM1 Tank System. During the validation phase, the contractors design to meet the EMC/EMI requirement. However, the Government would not require test documentation on a component level, nor would system level tests be conducted as a means of selection between contractors during this phase (DT I/OT I). The contractors would need only to conduct the required tests to assure intra-system compatibility. The Government testing was to take place during DT II/OT II.

(U) Camouflage Plan. A radar cross-sectional analysis of both contractors' vehicle concepts was completed under Government contract, and infra-red studies were conducted by USATACOM's research function engineering science division during "Hot Buck" test operations. A camouflage paint pattern was designed by USATACOM under USAMERDC auspices for both concepts. Specific desirable goals for both infra-red and noise were prepared by USATACOM and included in the requirements for the Request for Proposal (RFP) for the Full Scale Engineering Development/Producibility Engineering Planning (FSED/PEP) Phase. Continued utilization of contractor mathematical models was envisioned in assessing the various signature reduction studies.

(U) Turret/Fire Control. The turret assembly cycle was completed and the turret has been integrated with the chassis assembly. Open and closed loop testing of the main weapon elevation and traversing system was initiated during FY 1975.

(U) Armor Protection Program. Both contractors continued to show steady progress in their armor programs. Extensive testing of ballistic samples, representing various portions of the actual vehicle, was completed in June 1975 and the results presented to the respective contractors. Information gathered earlier in the program, plus the

results of a ballistic testing in Fall and Winter have produced limited redesign work. This redesign effort has been directed toward improving the existing protection levels to gain even better survivability and to correct any deficiencies or weaknesses discovered during testing. These redesign efforts were supported by further ballistic evaluations and in-process reviews. Concurrently, the contractors continued their efforts on the design test and evaluation of ammunition compartments. Aided by BRL (Ballistics Research Laboratory) and other government agencies, the contractors revised their crew door designs. Additional effort was placed in sealing the compartment and reducing the effects of internal propellant burns.

(U) Technical Performance Measurement (TPM). The major accomplishment under TPM for FY 1975 was that now the majority of component parameters reported on have been demonstrated by either laboratory or prototype test hardware. Both contractors were predicting that they would meet or exceed the MN technical requirements.

(U) Tripartite Tank Armament Evaluation Program (TTAEP). The TTAEP was a joint Federal Republic of Germany/United Kingdom/United States comparative evaluation of main armament systems for future main battle tanks of the three countries. The US portion of the program was managed separately from the XMI Tank System; however, XMI has provided considerable support to the joint evaluation. XMI program personnel monitored the contractor prepared alternate weapon system studies (UK 110mm and FRM 120mm systems), managed the US portion of the Tripartite fiscal program, and provided working members/US Chairmen to several of the various Groups and Panels that were convened for the actual conduct of the Tripartite Evaluation Program. The Tripartite Program was scheduled to be completed in August 1975.⁵⁶

(U) Testing Activities. The detailed plan for Development Test (DT I) was completed during the fiscal year. The plan was coordinated with and concurred in by all of the required commands/agencies. It was to be published and distributed in August 1975. In accordance with the Single Integrated Development Test Cycle Policy, an XMI Test Integration Working Group was established in March 1975. The existence of this group greatly facilitated the staffing and review of the DT I plan. Additionally, this group has initiated detailed planning for the FSED phase test program. In November 1974, the Test Management Branch initiated a TECOM monitorship program of contractor test activities. The purpose of this program was to eliminate or

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Memo, 20 February 1975 to SGS, HQ, AMC, Exec DC/S for RP&A, and US Representative Tripartite MBT Armament Evaluation, subject: Status of US-UK-FRB Tank Deliberations from the US Undersecretary of the Army (in AMCHO Historical Sources file).

reduce duplicative government testing by accepting contractor test data obtained under government observation.

(U) Ammunition Development Program (Cartridge, 105mm, APFSDS-T, XM735). Continued substantial progress was made during FY 1975 in the XM735 program, which was managed by the XML Project Manager as an additional assigned task. Technical performance, particularly armor penetration against standard NATO arrays, substantially exceeded the original design goals for the round. In August 1974, the design of the XM735E1 Tripartite Trials candidate round was frozen. 500 rounds of this configuration were fabricated, and the bulk of them were fired in the Tripartite Trials, February - June 1975. In March 1975, the design of the improved XM735E2 round was frozen. This round underwent Development Test (DT) II in May and June 1975, meeting or exceeding all requirements. The program is scheduled to enter full-scale development in first quarter FY 1976.

Financial

(U) Funds. For FY 1975, the XML Tank System project was authorized \$65,000,000 and \$2,000,000 PEMA funds. Approximately \$3.0 million of the RDTE funds was authorized for carry-over into FY 1976. The XM735 tank ammunition project was authorized \$2,988,000 RDTE funds for FY 1975.

(U) Cost and Schedule Control Systems Criteria (C&SCSC) and the Cost Performance Report (CPR). Both XML prime contractors and their subcontractors were validated under Cost and Schedule Control Systems Criteria (CSCSC) and their management systems were accepted in the last quarter of FY 1974 as meeting the requirements of DODI 7000.1. The successful implementation of C/SCSC by the XML contractors has given the XML project an extremely useful management tool to conduct a successful development program. The system itself does not prevent overruns or slippages, but it does give visibility into progress which allows management to take effective actions to counteract unfavorable trends. During the past year, both the XML project manager and the contractors' management have used the C/SCSC system to take necessary action to reverse unfavorable trends.

(U) During the past fiscal year, both contractors have improved their schedule by more than 30%, and have continued in a favorable cost position. Management reserve available for unforeseen contingencies remains at a high level, and both contractors are predicting completion of their contracts on target.

(U) The XML program office received a monthly Cost Performance Report (CPR) from each of the contractors. These were analyzed by the project office to project trends, review corrective actions and compile estimates of completion. A program review briefing was

prepared for the project manager on a monthly basis, reviewing the contractors progress to date and probable future course, based on the CPR projections.

(U) Evaluation of Contractor's Design-to-Cost Reports. The XMI program imposed a contractual requirement that both competitors design a tank possessing a unit hardware price tag of less than \$450,000 in FY 1972 dollars. As a part of this requirement, the contractors have been required to conduct internally an extensive design-to-cost program to assure that their production cost estimate was a creditable one. As part of this process, the contractors have submitted detailed Design-to-Cost Reports (DTC) on the 12th and 22nd months of development, showing the cost buildup of the tank. This was based on vendor quotes, parametric projections and industrial engineering costing techniques. The final report was due on the 31st month. Due to the importance of the hardware cost to the XMI program, a detailed review team was organized which reviews all of the input in the DTC report and validates both contractors procedures and their estimates.

(U) Program Cost Estimates. The Planning Estimates for this program was established in the DCP at \$391.1 million for RDTE and \$1937.2 million for procurement for a total Program Acquisition Cost (PAC) of \$2328.3 million. These were identified in FY 1972 constant dollars. Corresponding escalated dollars were \$471.5 RDTE, \$2533.9 PROC, and \$3005.4 PAC. During the past year, changes in directed escalation indices⁵⁶ resulted in corresponding escalated dollars for the Current Estimate of \$521.2 RDTE, \$3932.6 PROC, and \$4453.8 PAC. This Current Estimate reflects the addition of a feasibility study on the German Leopard 2 (\$2.9 million). The current estimate for RDTE is \$1.2 million into the threshold as a result of the unplanned Leopard 2 effort.

(U) Leopard 2. The FMC Producibility Study was initially called to life on the basis of the Memorandum of Understanding with the understanding that each government pay for half of the total costs which were estimated at \$2 million for planning purposes. Initial difficulties in FMC's negotiations delayed the signing of a contract. As a consequence, a letter contract was to be signed on 15 July at a cost not to exceed \$250,000 for each country. The final contract was to be signed 45 days later. The total cost for both contracts was now estimated to be \$4.1 million. The FRG has stated repeatedly that they had set aside DM 40 million (approximately \$17 million) for the XMI Leopard 2 Americanization effort. An additional DM 4.5 million (approximately \$1.9 million) was made available for the fabrication of the FRG automatic test rig.

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OSD Inflation Guidance, 20 Mar 1975.

Procurement and Production

(U) The two primary validation contracts awarded in June 1973 were being performed satisfactorily with completion scheduled for April 1976. Several contracting actions were processed, pursuant to the procurement function assumed in May 1974. These actions included a modification to each of the validation contracts to procure a production site evaluation covering several alternative manufacturing locations for production of the XM1 Tank System. A Request for Proposal (RFP) on a sole source basis was issued for a study of the producibility of the Leopard 2 vehicle in the US. An RFP for the Full Scale Engineering Development and Producibility Engineering Planning Phase of the XM1 Tank System development program was developed and was in the review and approval process at the close of FY 1975 with release scheduled for October 1975.

Project Manager's Analysis of XM1

(U) When he appeared before the DOD subcommittee of the House of Representatives Committee on Appropriations chaired by the Honorable George H. Mahon, MG Robert J. Baer, Project Manager for the XM1 Tank system was asked some hard questions and gave some clear answers regarding the Army's main battle tank being developed for the 1980's. In response to Chairman Mahon's request to know more about the XM1: "What are the facts?" General Baer presented a prepared statement including a short film strip indicating progress of the program. In 1972, the subcommittee directed the Army to come up with a less costly and less complex tank than the discontinued XM803 which would meet the challenge of future battle scenarios.⁵⁷ What Congressman Mahon and the subcommittee (particularly Congressman Robert L. F. Sikes) wished to know was: "How will the XM1 be an improvement over the US Army's M-60A3 tank and how will it compare to other Soviet and Free World tanks?"

(U) General Baer pointed out that the XM1 would have a shoot-on-the-move capability with a vastly improved fire control system. The most significant improvement over the M-60A3 would be in survivability. The survivability of the XM1 was to be enhanced through compartmentalization in that the crew's compartment would not normally be penetrated if the tank was struck and penetrated. Fuel and ammunition were to be stored compartmentally which made the XM-1 less vulnerable. Improved armor plus greater agility and mobility would give the XM1 increased combat effectiveness. It was to be two tons lighter. Also, the silhouette of the XM1 would be 14 inches lower making it less of a target.

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Statement of MG Robert J. Baer before hearings of DOD Subcommittee of House Committee on Appropriations, US Congress, 19 May 1975, "Part 9-Army Tank Program. . . pp. 56-65, US Government Printing Office, Washington, DC, 1975.

(U) In discussing firepower comparisons, Congressman Sikes wished to know why a 120mm gun was not being considered for the XM1. The new German Leopard 2 tank was employing a 120mm main gun and the Russian tanks contained 115mm guns. General Baer explained that the 105mm gun was preferred over the 120mm gun because an improved 105mm would meet all of the operational requirements of the 1980s. It would have substantial improvements in lethality out to 1,500 to 2,000 meters range. The larger gun would add two tons in weight, and General Baer indicated that: "We do believe that the lighter gun and lesser impact on the overall system to include the logistical support and R&D development required to finalize the capabilities of the system are all very important considerations." ⁵⁸

(U) General Baer pointed out that the 120mm had greater penetration than the 105mm. The 105mm was effective at 1,800 meters while the 120mm was effective at 2,200 meters on standard NATO triple heavy targets. General Baer added that the effective range advantage needed to be weighed against the added two tons weight and 2 inches height required for the 120mm, each of which would cause the tank to be more vulnerable. He also indicated that the 105mm was slightly more accurate than the 120mm and that more 105mm ammunition could be stored in less space, meaning that the smaller 105mm round could be more easily handled and more rounds could be carried. ⁵⁹

(U) General Baer reminded the committee that, though the XM1 concepts had been built around the 105mm gun and that vehicles delivered at the end of the validation phase would carry the 105mm main gun, there were two actions that could affect the XM1 program. The first thing would be the tripartite evaluation of alternative tank gun systems, which would examine the US 105mm gun, the United Kingdom 110mm gun, and the Federal Republic of Germany 120mm gun. The evaluation was for the benefit of attempting NATO standardization. However, the XM1 Project Manager called attention to the fact that the 105mm was pretty standard in that some 50 countries had tanks using the 105mm gun. The second thing was the Leopard 2 evaluation. With the objective of achieving the best tank possible, and in the furtherance of commality with allies, the US had agreed to a US test of the Leopard 2 tank modified to better meet XM1 criteria. The Leopard was to be evaluated as both an alternative tank system and for possible adoption of superior components. ⁶⁰

58

Ibid. pp. 59-60.

59

Ibid. p. 60

60

Ibid. pp. 73-74.

CHAPTER VI

PROJECT MANAGEMENT: EQUIPMENT AND MANAGEMENT SYSTEMS*

DCS (Army) Communications Systems

Mission

(U) The DCS (Army) Communications Systems Project is a degree 1 USAMC Project Management Office, and it is also a major subordinate command of US Army Communications Command (USACC), entitled by the latter as the US Army Communications Systems Agency (USACSA). The Project Manager/Commander of the DCS (Army) CS Project/USACSA, Major General Gerd S. Grombacher, serves those two major commands as the Army's Project Manager for DCS (Army) Communications Systems. In this capacity, MG Grombacher reports directly to his two major commands. By his charter which provides him with the full-line authority of both the Commander, USAMC and the Commander, USACC, MG Grombacher is responsible for the centralized management of (1) specified communications systems development and/or acquisition tasks assigned by USAMC and (2) tasks assigned by USACC which include Defense Communications Systems (DCS) projects assigned to the Army, projects that relate to purely Army requirements, to requirements for other US military departments and non-military US Government agencies, as well as requirements for allied armies and governments.

Background

(U) US Army Communications Systems Agency (USACSA) was established in 1967 by direction of the Chief of Staff, Army, in response to a Deputy Secretary of Defense Memorandum directing the MIL-DEPS to institute action to assure positive management of the DCS Switched Networks and other communications programs. The then Assistant Chief of Staff, Communications-Electronics, apprised the Vice Chief of Staff, Army, of "alternative plans of DCS to take over service responsibilities (management of acquisition of assigned DCA tasks) in the event adequate management response is not provided by MILDEPS." Various management alternatives were considered by the DA staff, US Army Communications Command (USACC) and US Army Materiel Command (USAMC), and the decision was made to establish USACSA as a joint USAMC/USACC project management activity at Fort Monmouth, with the full-line authority of, and reporting directly to, the Commanders of both USAMC and USACC. Personnel resources were provided by both USAMC (the former AMC/ECOM Project Manager UNICOM/STARCOM, Project Manager ET-A and ECOM Plant Inventory Control Branch) and USACC.

*Material in this chapter was provided largely by the Project Manager offices concerned. The original project manager submissions are in the AMC Historical Office Historical Sources File.

(U) Two in-depth studies of this unique organizational arrangement were conducted, and on both occasions (1968 and 1971/72) the Commanders of AMC and ACC recommended, and the Chief of Staff, Army, directed, the continuance of USACSA as a joint activity for the management of the acquisition of DCS (Army) and other communications systems/tasks assigned to or originating within the Army.

Former Commanders/Project Managers

(U) Colonel Blaine O. Vogt - March 1967-July 1967; Major General Hugh F. Foster, Jr. - July 1967-July 1969; Colonel William D. Canfield - August 1969-June 1970; Brigadier General Richard W. Swenson - August 1970-July 1971; Brigadier General Dorward W. Ogden, Jr. - July 1971-July 1974; Major General Gerd S. Grombacher - June 1974-Present.

(U) The 1971/72 DA-directed study resulted in the "triple-hatting" of the CSA Commander/Project Manager as the Commander, US Army Communications-Electronics Engineering Installation Agency (USACEEIA) as an essential step required to enhance the effectiveness and management responsiveness of CSA as the Army's Project Manager for acquisition of DCS (Army) communications systems. The Project Manager serves as the Project Manager DCS (Army) Communications Systems, reporting directly to the Commanding General, USAMC, concerning management of those USAMC functions derived from AR 10-11 (R&D, producibility engineering and planning, product assurance, configuration management, type classification, materiel management, integrated logistics support, production engineering, initial production facilities, procurement and production, distribution, et al); as the Commander of USACSA reporting directly to the Commanding General, USACC, concerning management of those USACC functions derived from AR 10-13 (systems engineering, programming and budgeting, overseas contract administration, installation, on-site test and acceptance, et al); and as Commander, USACEEIA, responsible for detailed system engineering, installation, test and acceptance of worldwide systems, Army-wide telecommunications automation development and maintenance, worldwide radio propagation engineering services, and Army-wide electromagnetic compatibility engineering services.

(U) The unique USACSA/Project Manager/USACEEIA arrangement has proved responsive to DCA; the successive directors of DCA have expressed their support and confidence in USACSA as a most responsive MILDEP project management activity. That confidence has been and continues to be demonstrated by the tasking of various critical DCS tasks to the Army.

The Product

(U) New projects are received on an average of about 50 a year and a similar number are completed or transitioned each year; usually, at any given time there are about 120 active projects on hand. During FY 1975, 47 new projects were received and 31 were completed or

transitioned. At the end of the fiscal year, 121 active projects were on hand, 79 of which were classified as major projects requiring intensified management. Further, the FY 1975 R&D program consisted of 15 projects with a value of \$2.2 million.

(U) The projects range from a simple equipment buy to a global communications system. For example, the AN/FGC-140 is a teletypewriter set requiring only acquisition and delivery. The Spanish Territorial Command Network is an intra-country system with sites throughout the peninsula and at some off-shore islands. Automatic Digital Network is a global system, and the Direct Communications Link is a two-country system, providing satellite communications between the USSR and USA.

(U) In the course of implementing the many projects, just about every mode of communication is used, such as digital, voice, and teletype, and practically every means of transmission is employed, such as microwave, ultra-high frequency, high frequency, single side band, tropospheric scatter, land and sea cables, satellites, and line-of-sight.

Organization

(U) With headquarters located at Fort Monmouth, New Jersey, the Project Manager DCS (Army) Communications Systems/USACSA organization is specifically tailored to the peculiar requirements of its joint USACC/USAMC, DCS-support role. The organization consists of six system/user-oriented Deputy Project Manager (DPM) elements (Special Systems, Switched Systems, and Transmission Systems at Fort Monmouth; Consolidation of Telecommunications Centers in the Pentagon at Washington, D.C.; International Communications Systems in Spain; and Telecommunications Automation and Control Systems at Fort Huachuca) exercising management directive authority over both USAMC (R&D, configuration management, type classification, materiel management, integrated logistics support, procurement and production, distribution) and USACC derivative functions (system engineering, OPA programming and budgeting, overseas contract administration, installation, on-site test and acceptance). The DPM's are staffed with communications management specialists and support personnel commensurate with the requirements of the individual projects. In addition, the organization contains six conventional functional directorates (Comptroller, Configuration Management, Logistics, Procurement and Production, Product Assurance, R&D Management) at Fort Monmouth, managing primarily USAMC-derivative functions. The functional directorates, in addition to their regular assignments, provide specific support to the DPM's and directorates located elsewhere.

(U) The support group offices provide liaison services at their respective separate locations for DPM's and directorates located elsewhere.

(U) In FY 1974 DA approved the addition of a technical director position to the TDA which was subsequently filled by a DAC GS-16. The technical director has the primary role of senior advisor to the Commanding General and as such provides command group continuity in all engineering, scientific and technical areas by continuing cognizance over all USACSA system development, engineering acquisition and installation activities worldwide.

(U) The Agency has sufficient organization flexibility to permit ready establishment or discontinuance of a Deputy Project Manager's office as the situation dictates. Consequently, as an intensified managed project achieves a stable condition and no longer requires a concentration of specialized skills, the particular Deputy Project Manager's personnel and functions will be absorbed by the Agency's DPM's or directorates, as required. Conversely, an additional DPM office would be organized as required and the agency's directorates and presently established DPM's would furnish the personnel resources required to staff the new office.

(U) The Agency does not incorporate the classic Project Manager's "System Engineering" or "Technical Management" directorate. In the interest of staffing austerity, technical management is exercised by the several DPM's who utilize the Project Manager's delegated authority over USACEEIA elements at Fort Huachuca, to assure accomplishment of systems engineering, test, installation, et al, tasks. The critical, unique "triple-hatting" of the Commander, USACSA/Project Manager as the Commander, USACEEIA, assures project manager direction and control over the system engineering, test, installation and other USACEEIA functions which, in the case of DCS (Army) and other communications systems/tasks assigned to USACC and to the Project Manager, are not the responsibility of USAMC/USAECOM, nor are they located at Fort Monmouth.

(U) In accordance with the USACC Reorganizational Concept, Project 16-78, 15 September 1974 and the Implementation Plan, US Army Communications Command Reorganization Project 16-78, December 1974, the US Army Communications Command (USACC) examined its organizational structure and functions worldwide with a view toward contributing as many manpower spaces and dollar savings as possible to the establishment of a 16-division Army force. As a result of that examination, certain changes in organization, functions, and staffing were implemented throughout USACC, thus affecting USACSA. USACSA's functional responsibilities were enhanced by the following: all USACC projects/tasks requiring centralized management were to be assigned to USACSA for project management of both USACC and USAMC-derivative functions. (The "Type II" designation for projects/tasks assigned to USACC "Executive Agents" was eliminated from USACC Regulation 105-12.) In addition, centralized management of New Equipment Training (NET) was reassigned from Headquarters, USACC (ACC-FD) to USACSA (Logistics Directorate).

(U) At the close of FY 1975, the USACSA/Project DCS (Army) Communications Systems organization was structured as depicted below:

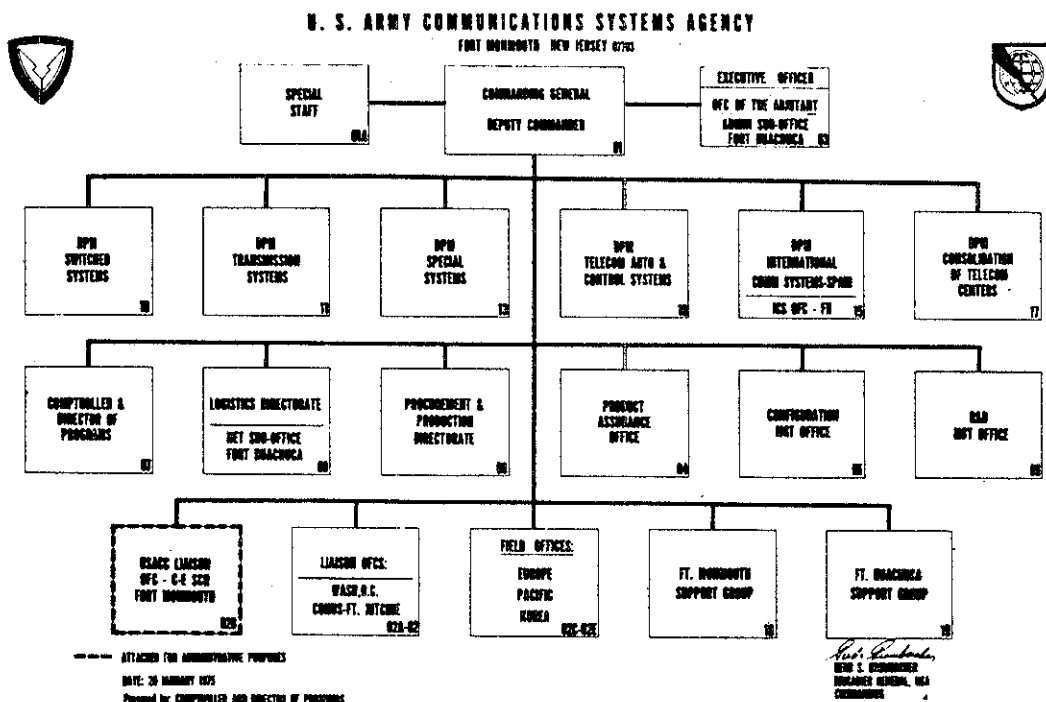


Chart 8

(U) At the close of FY 1975, the combined authorized and assigned military and civilian personnel strength of the USACSA/DCS (Army) Communications Systems was as follows:

PERSONNEL STRENGTH

(As of 1 July 1975)

	USAMC				USACC				TOTAL			
	O	E	C	T	O	E	C	T	O	E	C	T
AUTHORIZED	14	9	124	147	33	33	136	202	47	42	260	349
ACTUAL	14	7	111	132	39	41	122	202	53	48	233	334

O-Officers E-Enlisted C-Civilian T-Total

Financial

(U) USACSA Funding Program. The other Procurement Army (OPA) Program remains the major resource of the USACSA Project Manager. In FY 1975, the total Army and customer program was \$76M. Of the total, 56% was awarded during the fiscal year. Major items such as AUTODIN,

Pentagon CTCS, MEECN, and Scope Picture underwent major realignments during the year which prevented execution of large segments of the program. The OPA Program for the next five fiscal years indicates that there will be updates in our existing programs such as AUTODIN, AUTOSEVOCOM, and WWTCIP; expansion of projects in the command and control area; new projects such as Integrated Data Network and Secure Voice, Phase II; and acquisition and installation of communications systems for foreign military governments such as Spain and Indonesia. In addition, the agency plans to manage a part of a separate appropriation in the aircraft procurement Army area for air traffic control items. This program was expected to exceed \$5 million during the next five years.

(U) Cost Reduction Program. The Cost Reduction Program available for FY 1975 was \$1,300,000. This goal was exceeded by \$58,000. These actions were in the major item and value engineering general management and supply management areas. This fiscal year's performance was the seventh consecutive year in which the established goal was exceeded.

(U) Internal Review Operations. During FY 1975, the Internal Review Office continued the development of scheduled and special audits including the internal and regulatory review of the related operating functional and administrative responsibilities of USACSA. The annual review of the Mission Support, Host Tenant and Personnel Servicing Agreements was conducted. A review of the functional activities within DPM's was made to determine the extent of DPM's performing functions pertaining to the Logistics Directorate. As a result of the review, it was concluded that the Logistics Directorate should be the central point for functional DPM logistical requirements. The internal Review Office continued to represent USACSA as the coordinating, liaison, and reporting office for the Inspector General and the US Army Audit Agency during FY 1975.

(U) Cost Analysis. During FY 1975, the Cost Analysis Office increased emphasis toward the development of system and equipment cost estimates and cost-effectiveness studies. Some of the more significant economic analysis studies conducted during the past year were: the evaluation of in-house versus contractor maintenance for UNIVAC punched card machines associated with the worldwide AUTODIN system; the feasibility of replacing the current rotary system with a redundant solid state UPS under the FY 1974 AUTODIN Enhancement Program; use of low cost commercial modems for the Automated Multi-Media Exchange in lieu of bulkier, higher cost nomenclatured items; the feasibility of the continuation of contractor operation and maintenance for the life of the Detrick Earth Station, part of the USA-USSR Direct Communications Link (DCL); comparison of MAC versus CAT Z costs for overseas travel; use of a selectable switch in lieu of a plug in - plug out module concept for the TD-1192; and the use of solid state devices versus klystron tubes for the AN/FRC-109.

(U) Other cost analysis activities of significance were as follows: Preparation of cost assessments to support Letters of Agreement (LOA), Letter Requirements (LR) or Required Operational Capabilities (ROC) as appropriate for Antenna Beam Steering for Troposcatter Radio System, Transitional Digital Multiplex, Multi-Font Optical Character Reader, and High-Speed Facsimile Terminals; analysis of monthly contractor Cost Performance Reports (CPR's). This is a contract data item designed to call early government attention to serious schedule slippages or cost overruns. Reports of this nature are required on all cost type contracts within the agency which are in excess of \$1.0M. Presently, USACSA is receiving CPR's on its FKV, FY 1973 and FY 1975 AUTODIN Enhancement Program, and Megabit Digital Troposcatter subsystem; evaluation of contractor cost proposals, engineering change proposals and the overrun cost proposals. Examples were: The FY 1975 AUTODIN Enhancement Program, Tunnel Diode Amplifiers, the upgrade of the Taegu (Korea) ASC, and the procurement of the AN/FRC-77 radio for the Minimum Essential Emergency Communications Network (MEECN) Program; and development of system cost estimates.

Logistics

(U) The completion of the fiscal year saw further growth in the volume of support required of the Logistics Directorate involving the effective support of worldwide communications systems.

Type Classification/Reclassification Program

(U) The USACSA Type Classification/Reclassification Program, initiated in September 1969, continued to achieve the objectives of AR 71-6, "Type Classification/Reclassification of Army Materiel." During FY 1975, formal type classification/reclassification In-Process Reviews (IPR), necessitating preparation of IPR agenda packages, continued to be scheduled. Written concurrences from the IPR participants were received for all scheduled proposals and achieved 38 type classification and 12 reclassification actions. In addition, abbreviated procedures for type classification of equipments fielded prior to January 1972 resulted in type classification of 39 items. Equipments required for such major programs/systems as EWCS-70 Upgrade, Worldwide Technical Control Improvement Program and DCS Microwave Radios, represent the major type classifications effected in FY 1975 as standard. Since the implementation of the formal type classification/reclassification IPR procedures in FY 1974, written concurrences have been received from the IPR members for all USACSA proposals, and it has not yet been necessary to convene a formal IPR. To date, USACSA type classification actions for 601 systems/equipments and reclassification of 42 equipments have been recorded and broadcast by the USAMC Materiel Status Office. The current schedule for type classification reflects 65 systems/equipments which will require scheduling of the formal In-Process Reviews during FY 1976. This includes commercial equipment introduced as a

result of the USACC Preferred Items List (PIL) of Test, Measurement and Diagnostic Equipment (TMDE).

Modification Work Order Management

(U) US Army Communications Systems Agency, as a project manager, is responsible for overall management guidance and control of equipment modifications for major items of equipment and systems managed by the agency. In addition, the agency provides interface and coordination with Configuration Management, the user, and other MILDEP's; i.e., USACC, USAF, and USN where applicable or required.

(U) Upon review by USACSA Configuration Control Board and approval by the respective DPM, Logistics Directorate tasks the Electronics Command (AMC) to prepare all supporting documentation. Supporting documentation includes the printed MWO, changes to maintenance manuals and Repair Parts and Special Tools Lists.

(U) The final agency action provides management overview and approval of the draft and final MWO manuscript. Under the FY 1975 Modification Work Order program, six have been completed, fifteen are in various stages of processing, and one cancelled.

Item Management Transfers

(U) During FY 1975, transfers were completed on a total of 210 National Stock Numbers (NSN's). Currently pending for transfer are 49 NSN's. Also, by direction of AMC, USACSA has submitted to USAECOM a total of 3382 items as potential candidates for secondary item management. A sampling of these items is currently being stratified by USAECOM for inclusion in the FY 1977 Budget Program. Transfer of these items was scheduled to begin in FY 1977. The effective date of the transfers would depend upon the impact on the Secondary Item Budget which was being determined by the above-mentioned stratification studies. It was possible that all 3300 plus would transfer at one time, or they might be phased over a period of time.

Test, Measurement and Diagnostic Equipment (TMDE) Acquisition Policy

(U) During fiscal year (FY) 1975, the policy for acquiring TMDE was directed towards the procurement of equipments only from the Preferred Items List (PIL). This method of acquisition requires the preparation of sole source data and justifications for all TMDE. The conflict with this policy lies between the provisions of the Armed Services Procurement Regulations (ASPR's) and concurrently attempting to eliminate or decrease proliferation of these equipments. The ASPR requires competitive procurements; whereas, the PIL encourages the opposite; i.e., sole source justification. The Worldwide Technical Control Improvement Program (WWTCIP) was the initial system to undergo sole source TMDE acquisition. The sole source justifications were accepted by the Procurement and Production Directorate of the

Electronics Command (ECOM) but not by the Lexington Bluegrass Army Depot (LBAD); thus, illustrating that this method of procurement was dependent upon individual contracting officers and their respective interpretation of the ASPR's.

(U) In order to continue with the policy of decreasing proliferation; i.e., procure only PIL items which necessitates sole source, the WWTCIP procurements were transferred from LBAD to ECOM for acquisition. Concurrent with this action, during FY 1975, a contract was awarded by the Army Communications Command and funded by ECOM to Aeronautical Radio Incorporated (ARINC) to study and prepare an economic analysis of three "sample" PIL items for the purpose of preparing a Determination and Finding (D&F) for standardization of PIL items by the Assistant Secretary of Army (ASA) for Installations and Logistics (I&L). These economic analyses indicated significant dollar savings by procuring PIL vis-a-vis non-PIL. These analyses have been attached to the D&F for forwarding through the Army Materiel Command (AMC) to ASA for I&L. Assuming approval of this "sample" D&F, the entire PIL consisting of approximately 220 items will likewise be forwarded on a D&F for standardization.

Bills of Material for Telecommunications Development Projects

(U) Telecommunications development projects are those projects authorized under the provisions of AR 105-22 for resource acquisition/expenditures for the installation, modification, rehabilitation or removal of telecommunications services, equipment, facilities, networks and systems. USACSA is charged with the responsibility for acquiring materials required for the majority of these telecommunications development projects. Acquisition is generally effected through the AMC depot complex and may include fabrication, procurement, requisitioning, construction, assembly and testing in order to effect material unitization and shipment. The Logistics Directorate was monitoring acquisition for 296 bills of material comprised of approximately 18,650 line items representing worldwide project support at the end of FY 1975. During FY 1975, 156 project bills of material were shipped, representing a total of 8,384 line items.

Procurement Reviews

(U) Strategic communications involve maximum use of contractor-developed, off-the-shelf equipment. Our major procurements are predominantly competitive; however, support and resupply are largely bought by sole source procurements. All sole source justifications are rigorously reviewed before signature by the Project Manager. During FY 1975 sole source justifications totaling in excess of \$10.0M were received. When a procurement requirements package which is over \$200,000, or is a sole source procurement of over \$25,000, has been completely assembled and coordinated at USACSA, it is subjected to final review by the Joint Procurement Requirements Review Committee

(PRRC) and the Data Requirements Review Board (DRRB). This committee is composed of expert personnel in management, logistics, value engineering, configuration management, product assurance, data management, and procurement and production. The committee completed fourteen formal reviews during FY 1975 aggregating approximately \$12.0M. Procurement analysts conducted an additional 26 reviews, totaling approximately \$5.6M, which did not require formal committee action.

(U) Procurement analysts were sent to the customer sites to assist and advise the USACC specification writing team in describing the procurement requirement on complex and urgent tasks. This is done to insure that the customer requirement will be properly specified to industry. During FY 1975, an aggregate of twelve visits by procurement analysts were made to various CONUS sites for an aggregate of 34 man-days.

Value Engineering (VE)

(U) The Configuration Management Office administers the agency's Value Engineering Program. Historically, VE is part of the Army's cost reduction program because successful application of the technique saves money. VE does not compromise required quality or function and is concerned mainly with life-cycle costs. The USACSA VE program consists of two parts - an internal program for agency personnel and a contractual program for contractors. In the Internal Value Engineering Program during FY 1975, individual and group effort resulted in the submission and subsequent approval of value engineering proposals (VEP's) for cost savings of 1.86 million dollars. In the Contractual Value Engineering Program only one value engineering change proposal (VECP) was received during FY 1975 and was rejected as not being in the best interest of the government. Contractors were continually encouraged to participate fully in the VE effort in the submission of value engineering change proposals.

Configuration Management

(U) The Configuration Management (CM) Office continued to play a vital role in support of the Project Manager in limiting engineering changes to those that are deemed necessary and beneficial to the government, and in other important Configuration Management areas as relate to project management functions.

(U) Most significant of its accomplishments during FY 1975 was the establishment of a centralized CM data bank at Fort Huachuca, Arizona, which is maintained by USACEEIA. The data bank provides the CM Office the ability to maintain, update, and retrieve baseline configuration identification documents for each configuration item for which the Project Manager has responsibility. The baseline information is maintained on 35mm aperture cards and 16mm film cartridges, as appropriate. A real-time listing of data bank information, by project, is accessible at all times via a remote terminal installed at USACSA,

which allows entry into the USACC computer at Fort Huachuca. The engineering documentation system is maintained jointly by USACSA and USACEEIA.

(U) Configuration management Plans were revised and approved for the Territorial Command Network-Spain and the Digital Radio and Multiplexer Acquisition (DRAMA) projects. Also, eleven engineering change proposals were received, approved, definitized and implemented at a cost of \$748,100. In addition, numerous deviations and waivers were received and approved (at no cost) as being in the best interest of the government.

(U) Configuration Control Boards established and chaired by USACSA personnel were active during FY 1975, in evaluating proposed engineering changes and requests for deviations and waivers for: Territorial Command Network (TCN-Spain); Defense Communications Systems Microwave Radio; Standard Automated Multimedia Exchange (AMME) Level Automated Telecommunications Center (ATCC); Automatic Secure Voice Communications (AUTOSEVOCOM); Automatic Digital Network (AUTODIN); US Army Communications Systems Agency, Chartered CCB; and USA-USSR Defense Communications Link (DCL).

Research and Development

(U) During FY 1975, as it has for the past eight years, USACSA R&D maintained its close cooperation with ACC, AMC, DA and DCA in the development of near term and long range RDT&E projects in support of Army communications and Army assigned portions of the Defense Communications System (DCS). These efforts included participation in the preparation of the DA Telecommunications Plan (DATEP) 2000 and inputs to and review of the DCA Systems Improvement Plan (SIP) 1-75 and Five-Year Plan (FYP) - 1978. Based upon these documents and other specific tasking documents, this agency, representing the materiel developer, AMC, prepared the appropriate technical and costing portions of the requirements documents.

(U) These requirements documents fall under four categories: Joint Operational Requirements (JOR), Required Operational Capability (ROC), Letter of Agreement (LOA), and Letter Requirement (LR). Initial preparation of these documents falls under the jurisdiction of USACC. Technical and cost assessments were prepared by USACSA and validated by the USAECOM Cost Estimating Control Data Center. The following draft requirement documents were forwarded to AMC for further action during FY 1975: Multifont Optical Character Recognition Equipment (OCRE), JOR; Washington Area Secure High Speed Facsimile Terminal (Washfax), ROC; Adaptive Antenna Control (AAC), LOA; Efficient Reliable High Power Amplifier (ERHPA), LOA; and Local Digital Distribution Subsystem (LDDS), LOA.

Megabit Digital Troposcatter Subsystem (MDTS)

(U) The MDTS program comprises the development, fabrication, test, and evaluation of eight engineering development models of a digital modem for the transmission of digital signals over DCS troposcatter transmission links. A contract for this task was awarded to GTE Sylvania and Signatron, Inc., in November 1973. During FY 1975, a breadboard model was built and tested. The successful tests proved a technological breakthrough in digital troposcatter transmission by employing adaptive diversity feedback equalization on the received signal. Bit rates of 12.6 megabits per second over distances of 150 miles or 6.3 Mbps over 250 miles at error rates of less than one error per million bits is possible with this modem, a 300% increase over previously attained digital transmissions. Fabrication of the first engineering development models was 90% completed during FY 1975.

(U) Support to USAREUR for Evaluating Optical Character Recognition Equipment During Field Exercises. During FY 1975, CINCUSAREUR requested USACSA to assist them in evaluating the use of optical character readers and automatic plain language address to routing indicator translation and header preparation during field exercises. No such equipment has ever been used in field exercises. In response, USACSA and USAECOM configured the advanced development models of the Tactical Page Reader (TPR) and the Tactical Routing Indicator Look-up and Header Preparation Device (TACRAHD) with the Forward Area Tactical Teletypewriter (FATT). The TPR reads hard copy messages or Form DD-173, converts the information into electrical signals and feeds these to the TACRAHD. The TACRAHD translates the DD-173 formatted message into JANAP-128 or ACP-127 format, including translation of the Plain Language Address (PLA's), and feeds the JANAP-128 or ACP-127 formatted message to communications interface device for direct transmission or to the FATT for paper tape preparation. The FATT also provides a hard copy record of the message. The equipment performed exceedingly well during field tests from January to March 1975. The test results and budgetary estimates provided by USACSA are now being used by CINCUSAREUR to develop a requirements package.

(U) Transportable Automated Electromagnetic Compatibility Measurement System (EMC System). The EMC system is an automated computer-controlled spectrum analyzer that will be capable of sensing, measuring, recording and analyzing electromagnetic emissions over a frequency range of 20 Hz to 40 GHz. Data will be recorded on a disc unit and/or magnetic tapes for future reference and analysis. The EMC system will be housed in two 20-foot vans with four-wheel drive. These vans will be capable of being transported by the C120/C141 aircraft and CH47C helicopter. One van will house the automated electronic receiving system including antennas. The second van will contain test equipment, spare parts, supplies, and antenna storage. Each van will contain power generators and environmental control units.

(U) USACSA tasked the Institute of Telecommunication Sciences (ITS), Boulder, Colorado, on 19 March 1974 to develop this system based upon their prior successful development of a similar system in 1973. During FY 1975, ITS has been engaged in the development of the EMC system which uses a commercial HP8580B as a base. Configuration design and software program development has received concentrated attention and effort.

(U) A software driver for the keyboard has been written and demonstrated with the Disc Based Real Time Executive. Other drivers are being modified for operating the system in its expanded frequency configuration. A new software technique called Time Compression is being developed for measuring 20 Hz - 10 KHz signals. Antennas and associated electronics on the tower are being finalized, including down-converters, switching circuits with environmental controls, noise sources and a universal asynchronous receiver-transmitter (UART) for measuring signals up to 40 GHz. It is estimated that development will be completed in FY 1976.

Administrative Management

(U) During the third quarter FY 1975, the Agency installed, tested, accepted and made operational within the USACSA complex three portable conference telephone sets for remote conferencing for use by the Commanding General, Deputy Commander, and Deputy Project Managers. Then, during the fourth quarter FY 1975, the Agency installed, tested, accepted and made operational within the USACSA complex a Wideband Secure Voice Terminal with CONUS capabilities. The authority for global communications was granted by the JCS. Pending availability of assets, worldwide capabilities are available through patching. With the installation of the Wideband Secure Voice Terminal, and the portable conference telephone the agency security posture was improved.

Assigned Systems and Projects

(U) There were over 121 active tasks in the USACSA task inventory, of which 79 were major systems and projects assigned to the Project Manager on 30 June 1975. The individual systems and projects were indicative of the broad experience and expertise in specialized projects management required of the USACSA/Project DCS (Army) Communications Systems personnel to fulfill the agency's mission successfully.

Significant Accomplishments

(U) One of the complex operational aspects of USACSA-Project Manager DCS (Army) Communications Systems is the fact that no single end item or major communications system is the goal toward which the total work effort of the agency is directed. Rather, as a system or project is completed insofar as intensified project management is concerned, invariably, another new task is assigned to the Project

Manager. During the past year, a number of projects and systems that had been assigned to USACSA-Project Manager DCS (Army) Communications Systems in previous years were successfully completed and no longer required specialized intensive management. In some instances, certain residual factors associated with the total management of these projects and systems continue to be the responsibility of the Project Manager. However, for all practical purposes, the major emphasis and effort formerly assigned to these tasks have been concluded and the personnel resources detailed to other projects.

Acquisition of Strategic Communications Systems

(U) During FY 1975, the US Army Communications Systems Agency continued to acquire and install new communications systems worldwide and to expand and modify existing systems.

(U) Alternate National Military Command Center (ANMCC) TV Switching Systems. The requirement for a TV switching system for the ANMCC was received in September 1974. The system requires contractor EF&I of a video/audio multiple distribution switcher with 60 inputs and 160 outputs and ancillary equipment required to provide positive control of TV switching functions for the ANMCC. The system is essentially computer controlled. When the system is cut over in September 1971, it will replace the existing manually controlled system of lesser input/output capacity.

(U) American Forces Korean Network Microwave Transmission System. (AFKN). This project converted the existing AFKN microwave system from the 6 GHz band to the 7 GHz band at the request of the host government. A total of 13 sites was included in the basic requirement. AN EF&I contract was awarded to GTE Lenkurt, Inc., San Carlos, California, in September 1973. Phase I installation (change out of antennas and waveguide) was completed in September 1974. Phase II (installation of new radios) was delayed due to a labor strike at GTE Lenkurt. Phase II was completed in March 1975. Additional tasking (Phase III) was received in July 1974 to establish two new links (Hwaaksan to Pajuri and Hwaaksan to Kuksabong) in the Second Division area. A contract modification was initiated tasking GTE Lenkurt this additional effort. Completion of Phase III was forecast for August 1975.

(U) Army Airfield/Heliport Program. The Army Airfield/Heliport Program encompasses a worldwide upgrade of the communications and navigational aids at selected Army airfields and heliports. The basic objective of this program is to improve the quality and performance of CE equipment and standardize nontactical US Army airfield/heliports worldwide. Program upgrades are planned for CONUS, Europe, and the Pacific. The Alaskan Airfield/Heliport Program upgrade was completed in FY 1975. During FY 1975, engineering site surveys and associated

efforts were in progress at twelve US Army airfields/heliports in Korea and one in Japan. Specific tasking for the Army Airfield/Heliport Program for Europe was anticipated during the first quarter, FY 1976.

Automated Multimedia Exchange (AMME)-Level Automated Telecommunications Center (ATCC)

(U) The Automated Multi-Media Exchange (AMME)-Level Automated Telecommunications Center (ATCC) consists of an advanced record communications system designed to provide comprehensive and improved service at selected communications centers around the world. The system, as the major part of the Army Telecommunications Program (ATCAP), provides a standardized, faster and more versatile store-and-forward message switching system between dispersed remote office terminals and AUTODIN. The AMME provides automated and improved supervision of record communications, accounting, routing and delivery of message traffic, and the capability for interactive, electrical interface with local or remote data processing installations (DPI), AUTODIN, the AMME, and its subscriber terminals. As a standardized approach, AMME provides the maximum degree of hardware, software, and procedural uniformity consistent with satisfaction of the individual communication center requirements. The AMME-Level ATCC consists of four basic subsystems - the AMME, the Transmission (Patch and Test) Facility, the Remote Terminals and the DPI Interface.

(U) The AMME system was selected by the Department of Defense to be utilized at fourteen Naval communications centers for a total of 35 planned AMME locations. To date, DA has approved six AMME-Level ATCC sites. The first AMME ATCC was successfully implemented at Oakland, California, in October 1974; the second AMME became operational in August 1975, at Huntsville, Alabama. The Software Support Center AMME at Fort Huachuca, Arizona, which provides the test bed for software maintenance and development, also became operational in August 1975. The remaining approved AMME-Level ATCC's: Letterkenny, Pennsylvania; Headquarters, Military Traffic Management Command, Washington, D.C.; and Heidelberg, Germany are scheduled to become operational during the third and fourth quarters FY 1976 and the second quarters, FY 1977, respectively.

(U) Civil Defense National Radio Systems (CDNARS). This project includes three major tasks relative to the upgrading of regional and state civil defense facilities supporting emergency operations. The agency was directed to engineer, procure, install, test, and place into operation new HF radio equipment and HF monopole antennae at each of five Defense Civil Preparedness Agency (DCPA) regional headquarters to replace obsolete equipment. The agency was also directed to erect HF antennas for state emergency operations centers.

(U) The project is part of an overall civil defense effort to provide reliable and adequate communications and warning support to eight regional headquarters locations of the Office of Civil Defense and to fifty state civil defense relocation sites and other locations in the event of a nuclear attack.

(U) The retractable HF monopole antennas were under contract and installation was expected to be complete by March 1976. The forecasted award date for the HF quick erect antennas was December 1975 with delivery expected by December 1976. The present low power HF facilities at the CDNARS sites were to be replaced by using Army approved new family radio equipment. Tobyhanna Army Depot had the total upgrade task at all CDNARS sites. To date, three of the five sites have been installed, tested and accepted; the remaining sites were expected to be operational in March 1976.

(U) Consolidated Telecommunications Center (CTCC), Pentagon, Washington, D.C. The CTCC planned to establish a single automated message processing system with the capability of providing record message communications support for the MILSERVICE tenants in the Pentagon and for other designated activities located in the Washington Metropolitan area. The central computer complex for this system was to be located in the US Army Pentagon Telecommunications Center. The system would interface with a wide variety of digital subscriber terminal equipment with speeds ranging from 75 BPS to 9600 BPS. The system would be capable of interconnecting subscriber terminals of different speeds of transmission due to its store-and-forward method of operation. Incoming traffic from the AUTODIN would be automatically distributed to subscribers. The system provides for message accountability and history/journal files.

(U) Traffic originated by a system subscriber would require only the plain language address of its destination. The system would automatically add routing indicators for transmission over AUTODIN. Where the system does not recognize an address or there is an error in the header format, an operator would be signalled. The operator would then cause the message to be displayed on a cathode ray tube type of equipment. The unit, a Visual Display Unit, contains a keyboard and control circuitry by which the operator corrects errors, as required. The CTCC will provide faster and more reliable service to its users. It will also provide for more efficient utilization of AUTODIN access circuits. Present planning calls for interim CTCC completion in FY 1976.

(U) DCS Microwave Radio. The DCS Microwave Radio is a multi-year requirement which would provide the three services a common microwave radio. Repair parts, equipment manuals, and required test equipment were to be procured for the end items. On 29 December 1972, a requirements type contract for the DCS Microwave Radio was awarded to

Collins Radio Company, Dallas, Texas. The first delivery order was placed on 4 January 1973. To date, a total of eleven delivery orders has been placed under this contract for a total cost of approximately \$7.0 million. Included in the cost is the procurement of 88 analog and 22 analog (modified to a digital mode of transmission) radios. The modified to digital radios were being utilized in the FKV system in Germany.

(U) During the past fiscal year, the major effort on the DCS Microwave Radio Project has been the planning toward the procurement of additional digital radios for the Digital European Backbone (DEB) Program. The DEB Program is a joint Army-Air Force venture to update and digitize present systems throughout Italy and Germany.

Defense Satellite Communications System (DSCS)

(U) The Defense Satellite Communications Program (DSCP) started Phase II in November 1971 with the launch of two equatorial orbited satellites to provide an uninterrupted and modern communications system. Defense Satellite Communications System (DSCS) Phase II Stage 1B was implemented to upgrade each Army DSCS Earth Terminal (ET) to provide nodal communications capability. DSCS Phase II Stage 1C was started in 1974 by DCA to replace the analog DSCS Phase II 1B system with a digital communications system. It also introduces the heavy terminal AN/FSC-78 into the tri-service inventory.

(U) The DSCS Phase II Stage 1C comprises space and earth segments which provide satellite nodal and non-nodal secure and anti-jam communications links for voice, teletype and telemetry through the use of digital communications and spread spectrum techniques. The DSCS earth segment consists of the earth terminal (ET), digital communications subsystem (DCSS), interconnect facility (ICF) and power (rotating and UPS).

(U) The Director, DCA, is the DOD Program Manager in accordance with DOD Directive 5000.1. DA is assigned responsibility for procurement of earth terminal satellite systems, system peculiar multiplex, user interface equipment, and equipment for establishing and maintaining circuits and links between users for the control subsystem. Each MILDEP is responsible for satisfying requirements for ICF and power upgrading at their assigned earth terminal cities.

(U) The CEMO for DSCS Phase II Stage 1B was received in March 1973 and subsequently modified in July 1974 and March 1975 for the DSCS Phase II Stage 1C Project. During the past fiscal year, implementation of the Stage 1C program has proceeded satisfactorily. Significant accomplishments are as follows: Twelve site surveys were completed in the Pacific area; a contract was awarded to Electronic Space Systems Corporation in June 1975 for a radome to house the AN/TSC-54

terminal in Berlin; procurement has been initiated for the PCM multiplexer TD-1192 and other equipments for the DCSS; publication of the Tri-Service IIP with ILS and T&E annexes; and the acquiring and retuning of Radio Sets AN/FRC-162 to Project Washburn frequencies. Project Washburn is a dedicated special user ICF link from the Berlin AN/TSC-54 ET to Teufelsberg, Germany.

(U) EWCS Link Improvement-Germany. This project covers the upgrade of selected DCS links and the addition of others as follows:

<u>SITE/LINK</u>	<u>IMPROVEMENT</u>
a. Frankfurt-Darmstadt	Temporary reroute via Feldberg
b. Schwetzingen	Add Drop & Insert & PTC
c. Heidelberg-Donnersberg	Upgrade
d. Frankfurt-Feldberg	Upgrade
e. Feldberg-Melibokus	New Link
f. Melibokus-Koenigstuhl	New Link
g. Frankfurt-Breitsol	Upgrade
h. Bocksberg-Koterberg	New Link
i. Melibokus-Darmstadt	New Link
j. Koenigstuhl-Worms	Upgrade

(U) The radio equipment to be used will be the AN/FRC-80 (spurs) and the new DCS Microwave Radio (mainline). Multiplex equipment will be the AN/FCC-18 and AN/UCC-4. It is proposed to accomplish these link improvements as much as possible using uncommitted assets currently on hand and recoverable DCS assets made available as a result of the FKV project and other DCS site/link deactivations. All engineering and installation effort required will be accomplished, for the most part, with "in-house" government manpower resources.

(U) Frankfurt-Koenigstuhl-Vaihingen (FKV) Transmission Upgrade Project (Phase I). The FKV, Phase I, covers six sites and five links, as follows: Vaihingen-Stuttgart - Upgrade; Stuttgart-Stocksberg - New; Stocksberg-Koenigstuhl - New; Koenigstuhl-Schwetzingen - New; and Schwetzingen-Heidelberg - New.

(U) The links employ Pulse Code Modulation/Time Division Multiplex (PCM/TDM) bulk encryption techniques, the first such operational use of PCM/TDM in the DCS, and is intended to serve as a basis for future planning of PCM/TDM expansion within the DCS. In addition, FKV will implement seven wideband secure voice circuits from Vaihingen to Heidelberg, Landstuhl, Ramstein, and London. The links employ the new DCS Microwave Radio, modified for digital operation during FY 1974.

(U) The engineering and installation of the system was performed by the Raytheon Europe Electronics Company. Initial operating capability (IOC) was achieved on 18 March 1975 (Stuttgart-Stocksberg-

Koenigstuhl), 19 June 1975 (Koenigstuhl-Schwetzingen-Heidelberg) and 26 June 1975 (Vaihingen-Stuttgart). An FKV system training facility was established at the USACES, Fort Monmouth, New Jersey, to provide trained personnel to operate and maintain the system.

(U) Foresight Sierra Communications System (FSCS) Expansion Project. The Foresight Sierra Expansion was a MAP-funded project to add two tropospheric links to the existing system (which included one tropo link and two microwave links). The original FSCS was completed in 1971 by a contract with Philco-Ford (P-F). The expansion was accomplished by in-house engineering and by joint USA-AFP (Armed Forces Philippines) military personnel using surplus Southeast Asia (SEA) assets and reprogrammed JUSMAG funds. The expansion system included two 60-channel tropo links; training facility (Fort Bonifacio), two position toll telephone switchboards and a 200-line telephone dial exchange.

(U) The total Foresight Sierra project involved work by the contractor (Philco), US and AFP personnel. In association with the FSCS, two dial central offices and one two-position toll test board were procured from Stromberg-Carlson by CSA for the AFP and were installed in the FSCS system by AFP personnel. The project was monitored by a CEEIA Field Office located near Manila, until March 1975, at which time the office was closed. The FSCS expansion project was completed, tested, and formally turned over to the AFP on 14 March 1975.

(U) FY 1975 AUTODIN Enhancement Program (FY-75 AEP). The overall objective of the AUTODIN Enhancement Program (AEP) was the enhancement of AUTODIN ASC operations by eliminating the possibility of man/machine interface errors and by the addition of greater equipment redundancy and subsystem alarms. The program would provide the switches the capability of meeting the present DSSCS/DIN requirements and the ability to meet the forecast requirements in the FY 1973-1978 time frame.

(U) In September 1974, DCA provided a requirement to complete the drum mass memory subsystem replacement with disc mass memory subsystems identical to those procured under the FY 1973 AEP. Accordingly, to take advantage of considerable savings that would accrue to the government by authorizing hardware procurement prior to 30 December 1974, the formalization of a task order under an existing basic ordering agreement was expedited to achieve the pricing advantage.

(U) The FY-75 AEP required the procurement of nineteen additional disc mass memory subsystems to replace existing drum subsystems which, due to design and support obsolescence, have become increasingly more difficult and costly to maintain in the required operational readiness posture. FY-75 AEP discs will be identical with those acquired under the FY-73 AEP to assure commonality of logistical support, maintenance and training required to attain the required ASC operational/reliability efficiency levels. With the completion of contract

negotiations in January 1975, the contractor proceeded to fabricate and assemble the required hardware. Completion of installation efforts were scheduled for the fourth quarter FY 1976 with the ASC in Guam.

(U) Military Integrated Communications System (MICS), Taiwan. The MICS-Taiwan is a MAP-funded project to upgrade the existing Republic of China (ROC) backbone microwave system. The original MICS system was completed by Collins Radio Company in 1965. In December 1973, a sole source contract was awarded to Collins Radio Company to accomplish the system upgrading. All required installation material was shipped to Taiwan during February and March 1975. Upgrading and site modification efforts commenced in April and were completed in June 1975. On site testing and acceptance commenced immediately and was successfully completed on 14 July 1975, upon which the system was accepted by the host government.

(U) Minimum Essential Emergency Communications Network (MEECN) Phase II. Phase II MEECN would provide a highly survivable VLF/LF communications system that would provide a reliable and secure means to transmit minimum essential command and control messages to field commanders under wartime conditions. The major accomplishments during FY 1975 were: contract with Georgia Tech was completed for a study of LF Buried Dipole Antennas; a MIPR to USAF (ESD) was initiated for 616A modification and integration of the Army MEECN System; contract was awarded to Westinghouse Corporation for rehabilitation and installation of an AN/FRC-117 Radio Set at Fort Ritchie, Maryland; fabrication of a prototype, transportable AN/FRR-77 Receiver Terminal was completed by Lexington Bluegrass Army Depot (LBAD); procurement packages were completed for acquisition of an LF buried antenna and sheltermounted antennas; and initial contracts were awarded to Westinghouse Corporation and National Cash Register for AN/FRR-77 equipments on MIPR to USAF (AFLC).

(U) Indonesian Communications Systems (INDOCOM). Indonesian Communications System (INDOCOM) is a five-year (FY 1971-1975 MAP/AID program to provide communications for the Indonesian Armed Forces. The numerous subsystems that comprise the total system would utilize microwave UHF, VHF, and HF equipments. The system was being installed under the modular concept; i.e., it consists of networks, each of which is, in itself, an operating communications network available for use until the total system is completed. A total of eleven Army, Navy, Air Force and police communications networks were originally planned for this project. Two networks have been held in abeyance by CINCPAC.

(U) The planning for each NET is accomplished by the US Defense Logistics Group (USDLG) in Indonesia. Installation of the equipment was being accomplished by Indonesian personnel, under supervision of two US Army warrant officers. Since the inception of the INDOCOM

Project in 1971, the Hankam Network, Kowilhan Command Network, Mabad-Kodam, KOOPS Command, AFTN Network and DAERAL-SIONAL Networks have been installed and are operational. The Bandung Surabaya Garrison, Kodam-Kodim-Korem (KKK) Networks' bills of material have been received in Indonesia and were to be installed during FY 1976.

(U) A new Memorandum of Understanding signed by CG USACC on 1 August 1975 and by Chief, USDLG on 13 August 1975 consisted of a basic agreement document with two appendices. Appendix I contains current taskings and on-going former tasks. Appendix II is to include a five-year plan to be updated yearly or as required, and constitutes future requirements for planning purposes and possible future tasking.

(U) Project TANGO. Project TANGO is a command and control facility to provide an alternate headquarters for the United States Forces Korea (USFK). The TANGO facility was essentially completed and activated in October 1974. All material, with the exception of specialized TMDE, has been delivered and installed. Outstanding items of TMDE are on contract and are forecast for delivery by November 1975. Remaining work efforts consist of the installation of a special emergency action console telephone instrument at 50 locations throughout Korea and the rerouting of selected segments of the outside cable plant. Completion was forecast for December 1975.

(U) Territorial Command Network (TCN) Spain. The Territorial Command Network (TCN)-Spain is a joint-funded MAP program to provide the Spanish Army and Navy with a communications system to interconnect the Spanish High General Staff in Madrid with 15 Army and Navy Captain General Headquarters and bases located throughout Spain. The TCN would be utilized for command and command-related traffic. During periods of national emergency, the TCN would be fundamental to the rapid development and quick response of the Spanish Army and Navy. In normal times, the NET will serve routine administrative and logistics functions, as well as command communications.

(U) On April 15, 1974, a fixed price incentive contract was awarded to Federal Electric Company (FEC), a division of International Telephone and Telegraph Company (ITT) to engineer, furnish, and install this system. The system is composed of the following: 42 radio links and one cable link between 42 military locations; three telephone tandem switching offices (200 lines); nineteen telephone PABX's (100 to 400 line); fifteen cordless switchboards (25 line); 32 new technical control facilities; two teletype message switching centers; and 52 new diesel generators.

(U) Upon receipt of contract award, the contractor proceeded to place an order with subcontractors for all major hardware items and start preparation for team efforts for start of in-country site survey and associated engineering efforts. Foundation construction

work started at sites during the fourth quarter FY 1975 as well as installation of communications-electronics equipment at Army sites and the training facility for Spanish Army personnel. Site construction was approximately 85% completed with completion scheduled for the second quarter FY 1976.

(U) Trans-Isthmian Microwave System (TIMS) Upgrade. This project provides for the upgrade of the TIMS in the Canal Zone and establishes a dual-route system in conjunction with the Panama Canal Company. The upgrade consists of: engineering, furnishing and installing new DCS microwave radio equipment in a space diversity configuration; replacement of existing antennas, waveguide and pressurization lines; reconfiguration of existing multiplex equipments; rehabilitation, repair and replacement of towers; provision of DC power plant at Cerro Gordo, CZ; remoting of major equipment fault alarms from all sites to Corozal, CZ; and interfacing with the Panama Canal Company (PCC) to provide mutual path redundancy. IOC was achieved on 30 June 1975 and the operational system was turned over to the O&M Command.

(U) USA-USSR Satellite Direct Communications Link (DCL). As a result of diplomatic negotiations with the USSR, an agreement was signed on 30 September 1971 in which it was agreed to upgrade the existing Direct Communications Link between Washington and Moscow (MOLINK) from the present radio and cable system to a more modern satellite communications system. The DCL will provide direct teletype communications from subscriber terminals in the vicinity of Washington, D. C. to subscriber terminals in the vicinity of Moscow. This is to be accomplished through two independent satellite systems and their respective terrestrial interconnect facilities. The two satellite systems to be utilized are the Russian Molniya III and the USA commercial COMSAT INTELSAT IV.

(U) The latter system was activated and end-to-end testing was successfully completed with the USSR on 24 December 1974. That same month, the USSR notified the USA that they would employ Molniya III instead of II and that they would be ready for testing about mid-CY-75; however, current indications are that the USSR will not be ready for final system testing since technical problems currently exist with the USSR INTELSAT Terrestrial system. Further, the USSR must also orbit two more Molniya III satellites before the Molniya subsystem can be tested end-to-end.

(U) The completion date for system testing and the FOC date will be dependent upon future mutual agreement between the US and USSR. In April 1975, site O&M responsibility was transferred to the Seventh Signal Command. Pending final system testing, the Project Manager will retain overall system responsibility.

Mobile Electric Power (MEP)

Introduction and Background

(U) Project Manager-Mobile Electric Power (PM-MEP) was activated 1 July 1967 by direction of the Secretary of Defense. The Secretary of the Army was designated Executive Agent for DOD for FSC 6115, Engine Generators, and was directed to appoint a project manager and to negotiate and issue a jointly approved charter. The mission of the Project Manager, as outlined in the charter, is to effect management and standardization of mobile electric power generating sources within DOD to meet military needs. Consistent with this mission, two priority tasks were assigned: developing fully coordinated standardization documents and procurement data packages which can be used to procure the first DOD Standard Family of generator sets acceptable to the Services. DOD Directive 4120.11, "Mobile Electric Power", describes the Family by classification, power rating and mode; and determines the operational requirements for and definition of a DOD Standard Family of gas turbine engine driven generator sets and/or other power sources. This is referred to as the second generation of the DOD Family.

(U) Colonel Ralph H. Sievers, Jr. was designated Project Manager-Mobile Electric Power, effective 12 August 1974.

Program

(U) TDA W1WOWHAA effective 30 April 1975 authorizes three military and 29 civilian positions for PM-MEP. This is a decrease of one military and an increase of one civilian position over the previous fiscal year. The DOD Mobile Electric Power Generating Source Program requirements for FY 75 were as follows:

Army	\$18.2
Navy/Marine Corps	3.7
Air Force	1.4
	<u>\$23.3M</u>

Product Assurance/Test Analysis

(U) Reliability & Maintainability (R&M) Testing. Reliability demonstrations were completed on the 15 kw, 30 kw and 100 kw, 400 Hz DOD diesel engine driven (DED) generator sets. These sets are following in the paths of the 60 kw, 100 kw, 60 HZ and 200 kw sets, which have completed R&D demonstrations. This program (15-200 kw) was the first to utilize the R&M disciplines for mobile electric power equipment procurement. The 15 & 30 kw sets joined the 60 kw, 100 kw and 200 kw size sets as Production Phase Family Members based on successful R&M demonstrations.

(U) Reliability Records. Reliability of the family of 0.5-10 kw gasoline engine driven (CED) generator sets was being assessed periodically under the guidance of the Project Manager. The status reports were based in Initial Production Testing performed by the Test and Evaluation Command in connection with production contracts.

(U) Specifications. Action was continued toward introducing R&M requirements into the specifications for the GED sets. The R&M requirements of the 15-200 kw DED set configuration identification were reviewed and appropriate revisions provided for inclusion in the reprourement specification.

(U) Test Procedures. Based on lessons learned in the 15-200 kw DED program, a standardization project was prosecuted to revise MIL-STD-705, Methods of Test for Engine Driven Generators, to include a new reliability test method.

(U) Lot Summary Data. The trial utilization of the PM-developed Lot Summary Data Item was executed for production deliveries of the 60 kw, 100 kw and 200 kw size sets. This permitted direct analysis of an individual contractor's inspection program and, due to high commonality of components among the DOD Family, provided the basis for a comparative analysis among contractors. The data comprised a lot-by-lot summary of results of individual and sample set inspections, average defects per unit, "High Five" defectives start-up failures and "burn-in" data. The results were promising, and the Data Item was included in the reprourement contract for 200 kw generator sets. Consideration is being given to make the Data Item standard for all contracts.

Technical Management

(U) Standardization (Class 6115 Projects). Military Standard 633D has been published with a date of 30 September 1974. This publication identifies the Joint Service approved Standard Family of Mobile Electric Power Sources. Military Standard 1650 has been published with a date of 21 June 1974. This publication identifies the Joint Service approved Standard Family of Aircraft Ground Support Power Units. A revision of Test Procedures for engine driven generator sets as identified by Military Standard 705 is in process. The present publication did not include a reliability test (695.1). Military Specification, MIL-G-38195 is no longer descriptive of the generator set being procured. The updated specification will reflect current items and go from limited to full (Joint Service) coordination status. The 10 kw/28V DC GTED generator set has been adopted as a Joint Service approved member of the Standard Family of mobile electric power sources and is reflected in Military Standard 633D. There were 10 active standardization projects at the beginning of the year; two were opened, seven were completed. There were five active projects remaining at close of the year.

RDT&E Program

(U) 10 kw GTED. This generator set has progressed to the design phase and appears to have promise as a prospective general purpose member of the Joint Service approved Standard Family of mobile electric power sources. This 10 kw/60 Hz GTED generator set will be used by those units whose operational mission and/or mobility requirements dictated the need of the lightweight and small volume afforded by this set. Additional objective of the development contract is to achieve Design to Unit Production Cost (DTUPC) of \$7,600 on the basis of 1000 sets.

(U) 30 kw GTED. This generator set has progressed to the Design phase and appears to have promise as a prospective member of the Joint Service-approved Standard Family of mobile electric power sources. This 30 kw/60 Hz GTED generator set is being developed as a general purpose power generator with superior characteristics in terms of size, weight, durability, reliability, maintainability and multi-fuel operation over existing equivalent quality power output generators in the DOD inventory. Additional objective of the development contract is to achieve DTUPC of \$16,700 on the basis of 500 units. Due to austere funding, this program has been spread out over an additional two-year time frame.

(U) 10 kw DED. Through in-house design, prototyping and testing, a 10 kw 28V DC deisel engine driven generator set, mounted on a 3 wheel cart is being developed by the Naval Air Engineering Center to support rotary and fixed wing aircraft. This unit will incorporate many of the components used on other standard family members to improve logistic support. Purpose of development is to replace existing 7.5 kw 28V DC gasoline engine driven generator sets which because of age, are extremely difficult and expensive to maintain in operation.

(U) 30 kw DED. Through in-house design, prototyping and testing, a 30 kw 400 Hz diesel engine driven generator set mounted on 4 wheels (driveable) is being developed by the Naval Air Engineering Center to support Naval and Marine Corps aircraft. This unit will incorporate many of the components used on other standard family members to improve logistics support. Purpose of development is to replace existing overage generator sets used ashore and on board ship. This generator set will incorporate the use of a Transformer-Rectifier to service aircraft requiring 28V DC power rather than a secondary DC generator System and/or a separate DC generator set.

(U) Transformer-Rectifier Kit. Through in-house design, prototyping and testing a transformer-rectifier (TR) unit has been developed and field tested by the Naval Air Engineering Center. When used with

any 400 Hz power source it will eliminate need for a separate 28V DC generator set or DC system. Capabilities are 750 amps continuous and 1,000 amps current limited. Additional testing with other Standard Family members will be accomplished with funding limitations on a continuing basis.

Extended Oil Change PEMA Program

(U) The extended oil change PEMA Program in process at USAMERDC under MEP direction is examining the extension of operating time between oil changes both on DED and GED MEPGS. Under this program MEP sets have been operating on extended hours and oil samples examined with emphasis on both the chemical deterioration or the oil and indications of increased wear of the engines (spectrometric). Results have indicated that the 100-hour oil change was super conservative and thus the Project issued a directive establishing an interim 300 hour/six month oil change period for liquid cooled 4 stroke DED sets. The study of GED and air-cooled MEP sets is continuing and will establish criteria for the remaining part of the MEP family.

(U) Malor Program. To satisfy Project Manager-Malor, the need for a 10 kw 3 phase, 400 Hz power source to be used with the AN/TPQ-36 mortar locating radar was identified. This power source will consist of the rotating group (engine and alternator) developed during the turbo alternator program and a power conditioner. Power conditioner and rotating group contracts were awarded with first units scheduled for delivery during 1st Qtr FY 76.

(U) Aircraft Support Generator Set Program. The Joint Services previously agreed upon composition of the interim Standard Family as 4 members, with future members to be further identified. From the initial proposal of a 12-member family which would consist of current and future items, a reduction to 7 items has now been agreed upon. There is a possible further reduction to a Joint Service Coordinated Standard Family of 6 members, capable of satisfying all known present and future aircraft support requirements.

Procurement and Production

(U) Five-Year Procurement Plan. The FY 1976-1980 Five-Year Procurement Plan is in final PM review. Delivery to the printer was expected by 18 August with distribution prior to 31 August 1975.

(U) Procurement Awards FY 1975. The following contracts were awarded during FY 1975: Contract DSA 400-75-C-3682 was awarded January 1975 to Caterpillar Tractor Company for GFE engines for 200 kw generator sets; Contract DSA 400-75-C-5068 was awarded April 1975 to Wilco for 10 kw 400 Hz GED generator sets for a MAP requirement;

Contract FO4606-75-D-0197 was awarded June 1975 to J. R. Hollingsworth Company for M32A60A aircraft starting units; Contract DSA 400-75-C-5757 was awarded to Fermont Division, Dynamics Corporation of America June 1975 for 200 kw 60 Hz generator sets; Contract DSA 400-75-C-5592 was awarded May 1975 to J. R. Hollingsworth for 5 kw 60 Hz generator sets.

(U) The total dollar value of procurement awards placed for MEP requirements during FY 75 was approximately \$27 million; and the second and third year quantities of the Libby Welding 15/30 kw contract were picked up in a restructure increasing the contract dollar value by 12.3M.

(U) Industrial Preparedness Production Planning (IPPP). Total quantitative planning requirements for each required generator set were obtained from each of the Services. These planning requirements were, in turn, assigned by FSN to the cognizant Service Procuring Activity and Defense General Supply Center for appropriate IPPP coverage.

Logistics Management

(U) Provisioning. Initial provisioning actions on the 15 through 200 kw members of the DOD Standard Family continued through FY 1975 with most actions being of a clean-up nature; i.e., correction of errors in data, accommodating approved engineering changes and identifying and eliminating duplicate cataloging actions.

(U) Depot Maintenance. The Project provided technical assistance and guidance to a Joint Logistics Commander's sponsored group studying the interservicing of the depot maintenance program for generator sets and related items. Personnel of the Project participated in a survey of the depot maintenance facilities of all the Military Services and assisted in the formulation of a recommendation that the total DOD depot maintenance workload for FY 1976 through 1981 be interserviced to the Army for the gasoline engine driven members of the DOD Standard Family.

Configuration Management

(U) Staff officers of PM-MEP, through the delegated authority of the Project Manager, are currently chairing seven configuration control boards for design control of 48 models of generator sets. During FY 1975, 140 change proposals, deviations and waivers were evaluated.

ECPs Processed:

<u>Approved</u>	<u>Disapproved</u>	<u>Cost Increase</u>
98	9	\$232,300

VECP & Cost Reduction Proposals:

<u>Approved</u>	<u>Disapproved</u>	<u>Cost Savings</u>
4	5	\$ 52,700

Waivers & Deviations:

<u>Approved</u>	<u>Disapproved</u>	<u>Cost Savings</u>
17	7	\$ 5,398

(U) One drawing package was approved by the Project after completing a 100% physical configuration audit for the following DOD generator set: 200 kw diesel engine driven 50/60 Hz.

(U) Production release was granted for the following sets: 5 kw diesel engine driven 60 Hz; 10 kw diesel engine driven 60 Hz.

Munitions Production Base Modernization and Expansion

Organization and Mission

(U) The Munitions Production Base Modernization and Expansion (MPBM&E) Project Manager's Office was established as a Class II Activity under Headquarters, US Army Munitions Command at Dover, New Jersey effective 30 December 1972. The new project manager's office assumed the functions of the Manufacturing Technology Directorate, Headquarters, US Army Munitions Command, 15 January 1973.¹ The charter for the program made the project manager responsible for centralized management authority over the planning, direction, control, and execution of the munitions (originally ammunition) production base modernization and expansion that included all US Army ammunition plants and arsenals plus government equipment located at contractor owned and operated facilities within the ammunition mobilization production base. The project manager was established as the Army focal point for the operational control of the ammunition production base modernization and expansion program. Participating agencies included: US Army Corps of Engineers; US Army Munitions Command; US Army Arsenals; US Army

¹(a) General Orders 9, HQ, USAMC, 11 January 1973; (b) Letter, AMSMU-PT-FW, 15 January 1973, subject: Establishment of Project Manager for Munitions Production Base Modernization and Expansion.

Ammunition Procurement and Supply Agency; US Army Ammunition Plants; US Army Materiel Command Installations and Services Agency; US Army Procurement Equipment Agency; and other AMC Major Subordinate Commands, separate activities, and Project Managers.²

(U) The MPBM&E Project Manager's office organization evolved during FY 1974 and FY 1975 into a structure that encompassed six major divisions: Program Management; Technical Support; Plant Equipment Packages; Propellants and Explosives. Metal Parts; and Load, Assembly and Pack.³ The structure also included a Special Staff comprising legal and public affairs support and an administrative support office. There was also a Joint Conventional Ammunition Program Coordinating Group and two Arsenal Liaison Field Offices for Frankford and Rock Island Arsenals that were required for special projects plus a Washington Liaison Field Office. The current Project Manager is MG Robert J. Malley.

Background and Overview⁴

(U) Though the acquisition of sophisticated weaponry receives daily attention in our nation's newspapers, little attention is given to ammunition. Yet, in the final analysis, sophisticated weaponry consists of nothing more than delivery vehicles for ammunition.

(U) The Department of Defense (DOD) operates the largest industrial complex in the free world for manufacturing propellants and explosives and for loading, assembling and packing small arms, mortar and artillery ammunition, and general purpose bombs. Most of the DOD facilities are under the US Army. They produce a wide array of ammunition sizes and shapes ranging from a 5.56mm cartridge to 8" artillery shells. Recently, the Army was assigned as Single Service Manager for Conventional Munitions responsible for DOD's ammunition production base.

(U) As of FY 1975 this production base was comprised almost entirely of World War II and Korean War vintage facilities. DOD's experience in supporting the Southeast Asian conflict clearly demonstrated that the industrial base was not adequate for sustained operations. Facilities were obsolete, worn out and often required

²Project Manager Charter, Ammunition Production Base Modernization and Expansion, 6 January 1973.

³For details concerning the modernization and expansion in the areas of: Plant Equipment Packages; Propellants and Explosives; Metal parts; and Load, Assembly and Pack, see the FY 1975 Annual Historical Summary of the PM-MPBME in the Historical Sources of the AMC Historical Office. The details are too voluminous to be included here.

⁴A.L. Selman and J.F. Miseyko co-authored an article "Modernization of Army's Munitions Production Base" which appeared in the Oct 74 issue of the Defense Management Journal. Together with these background notes, they give the reader a good general overview of PBM.

cannibalization of parts from other vintage equipment to maintain production schedules.

(U) Since ammunition is so critical to our defense, there is a great need to insure that adequate amounts and that the most powerful and lethal mix are available at the proper time and place. DOD places considerable reliance on private industry to provide the required production base capability. However, since there are no counterparts to DOD's facilities in the commercial sector, it is imperative that the DOD plants be modernized and expanded. Production capability must be at the point where it can support the material requirements of the United States and selected allied armed forces in sustained combat and with the desired responsiveness. Modernization and expansion was approved in early 1968. The program involved the modernization of facilities and equipment with a replacement value of over eleven billion dollars.

(U) A number of problems were encountered in the implementation of the program. The existing base was and is obsolete requiring revolutionary modernization. The skills available in private industry have changed significantly over the last twenty years. Ammunition has been redesigned and new families of ammunition have evolved requiring different processes and equipment. The technologies for metal working, metal forming and metal removal are available in one form or another in private industry. However, there is no industrial counterpart for most of the propellants and explosives and load, assembly and pack manufacturing operations required for munitions. This technology must either be developed or acquired from foreign sources.

(U) Finally, the base is represented in almost every geographic area of the United States and parts of Canada with a broad array of companies and government owned facilities comprising the base. The management and technical staffs of these various facilities all have their own ideas about how the base should be modernized or expanded. Many of their ideas are worth pursuing.

(U) Bridging the technology gap, particularly in those areas that have no civilian counterpart, has been a most challenging task. For example, the last United States black powder plant was designed in 1892 and built in 1919. Practically all current operations involve a great many hand operations. Batch processes must be converted to continuous processes in order to take advantage of new materials handling techniques and to improve the safety of operations.

(U) Material handling, process tools and inspection systems must be computerized to achieve the desired operating economies and to decrease expensive direct labor. But, the new systems must be

capable of economic layaway for periods of ten years or more, a situation that is not encountered with most facilities in private industry. Computer manufacturers, for example, do not design their equipment for that kind of ownership. They make provisions for a few months of layaway but certainly not several years.

(U) The ammunition production base is a national base although large portions are concentrated in the midwest and mideast. It is comprised of twenty-five government-owned, contractor-operated (GOCO) plants, two of which were being excessed. These plants can each manufacture, on the average, about one hundred million dollars' worth of products a year. There are also one hundred and twenty-five contractor plants which utilize government or a mix of government and privately-owned equipment. These plants are capable of producing about one and a half billion dollars worth of ammunition metal parts and fuzes per year.

(U) The know-how of management and skilled personnel, and such factors as environmental regulations and occupation and health regulations vary from plant to plant. These differences must be accommodated in such a way that regulations are satisfied and the private sector is encouraged to remain in the base and participate in the modernization program. The rationale of the program is clear. Modern technology is used in all facilities even though at times there is a temptation to modernize with an older process for expediency and economy. The modernization program also eliminates or minimizes pollution and occupational safety and health problems. Designs are also tailored for energy conservation and, wherever feasible, flexibility to use alternate fuels.

(U) Concerted efforts are made to keep industry involved in all phases of the program: engineering, equipment fabrication, construction and subsequent plant start-up operation. Designs and operating data are provided free of charge to private firms. The highest overall program priority is to expand the base to meet current production. The next priorities are to expand and then modernize to meet mobilization requirements specified by OSD and the Department of the Army.

(U) The Army's planned program, comprised of engineering, facilities for GOCO plants and equipment packages for private industry, is estimated at about 7.3 billion dollars as shown in Figure 20. Of that total, a little over one billion dollars has already been appropriated for projects which are underway or completed.

(U) Figure 21 shows the actual funding profile for the program from FY 1970 through FY 1975 and the planned funding from FY 1976 through FY 1988. The FY 1976 program includes funds for fifteen months to accommodate the change in fiscal years commencing in FY 1977.

PROGRAM ELEMENTS

\$ MILLIONS

	VALUE
MANUFACTURING, METHODS & TECHNOLOGY	310.0
MODERNIZATION & EXPANSION PROJECTS	5963.9
PEP MODERNIZATION PROJECTS	1000.0 EST

TOTAL

7273.9

Figure 20

MODERNIZATION/EXPANSION PLAN PROGRAM FUNDING PROFILE

275

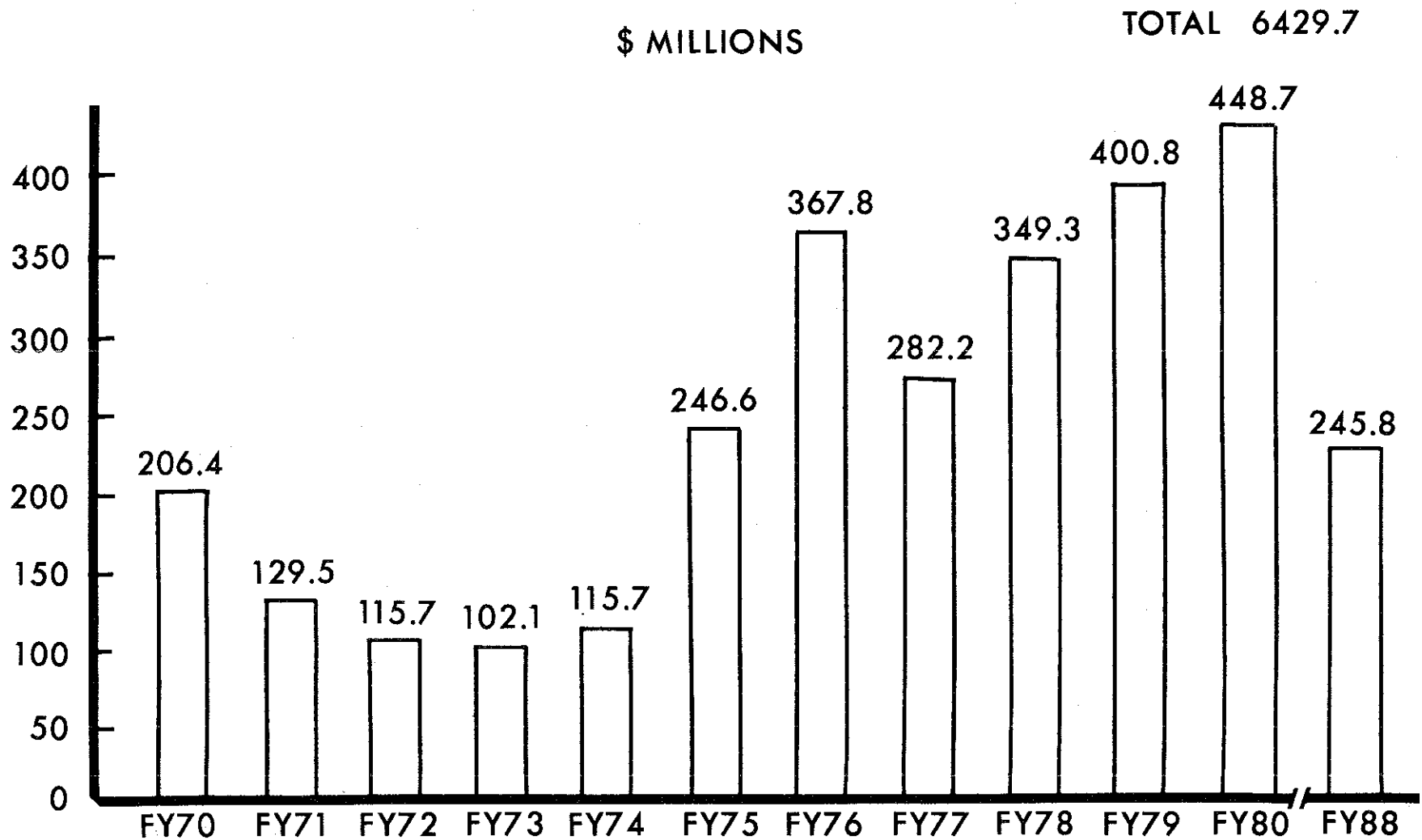


Figure 21

TOTALS FOR FY 77-88 ARE
IN FY 75 CONSTANT DOLLARS

Figure 22 summarizes engineering and construction efforts which are currently underway. There are over three hundred and eighty-seven active projects with a total value of about 2.3 billion dollars.

(U) A single base propellant plant is under construction at the Radford Army Ammunition Plant. It has a capacity of approximately two and one half million pounds of propellant per month. The completed installation is expected to cost about forty-five million dollars. Construction of the world's largest modern black powder plant was initiated at the Indiana Army Ammunition Plant in November 1974. The plant is expected to cost thirty million dollars and be capable of producing five hundred thousand pounds of black powder per month.

(U) There are twelve modern TNT lines and associated acid plants nearing completion at the Joliet and Volunteer Army Ammunition Plants. These facilities and associated pollution abatement equipment have a total value in excess of two hundred million dollars and are capable of producing thirty-six million pounds of TNT per month.

(U) A prototype small caliber ammunition production line is in its final prove-out stages at the Twin Cities Army Ammunition Plant. This line is a high-speed, automated continuous production system with automatic control and inspection which reduced personnel requirements by more than 70%. Capacity is 1200 rounds per minute. These lines will cost approximately fifteen million dollars each and will produce about twenty-one million rounds of ammunition a month.

(U) The modernization of metal parts facilities for the conventional high explosive round are nearing completion at the Scranton Army Ammunition Plant and are planned for the Louisiana Army Ammunition Plant. These facilities have a combined production capacity of approximately three hundred and eighty thousand rounds per month and are being modernized at a cost of about ninety million dollars.

(U) Facilities to manufacture fuze precision parts have been acquired and are presently being installed at a number of fuze plants around the country. This equipment is valued at about five million dollars and is all of foreign origin as there is no source of clock and watch making equipment in the United States. Products and process designers are busily engaged today as they have been for the past four years in designing away from foreign equipment for precision components.

(U) Facilities have been mechanized to manufacture cloth propellant bags on a continuous basis at rates of up to forty bags per minute. Several assembly and pack-out facilities for loaded ammunition have been designed and are under construction at the Joliet, Kansas, Iowa and Lone Star Army Ammunition Plants.

SUMMARY OF EFFORTS UNDERWAY

\$ MILLIONS

	NO. OF PROJECTS	VALUE OF PROJECTS
PROCESS ENGINEERING	189	130.5
CRITERIA DEVELOPMENT	17	925.1
DESIGN	74	732.9
CONSTRUCTION	107	503.7

TOTAL

387

2292.2

Figure 22

(U) Regarding engineering efforts, a modern nitroguandine plant design was completed in April 1975 with the construction and equipment contracts being let in June 1975. This plant was derived from an assemblage of off-the-shelf designs collected from around the world and incorporated into one facility. The completed plant with all of its support is expected to cost one hundred million dollars and require four years for completion.

(U) The design of a plant to continuously melt and pour explosives into shells was recently completed. This plant is expected to load a million rounds of conventional 105mm ammunition per month using about twenty-five production people per shift. Prototype equipment to load propellant into bags for 105mm, 155mm and 8" ammunition are presently in pilot facility status. These facilities will greatly reduce hand operations in bag loading plants.

(U) Studies for the manufacture of explosives are underway with new processes for HMX in private industry and for continuous processes for Composition B and RDX at the Holston Army Ammunition Plant. These efforts are expected to reduce manufacturing costs and capital equipment required to expand this important base for new rounds of ammunition. At the Radford Army Ammunition Plant evaluations are being made on nitrocellulose using magnesium nitrate as the dehydration agent instead of sulphuric acid. This engineering effort should be completed in about a year.

(U) Pollution abatement, energy conservation and water conservation engineering programs are underway at Picatinny, Edgewood and Frankford Arsenals and a number of firms in private industry. These programs are providing technology for adaptation of off-the-shelf process and equipment designs to all phases of ammunition manufacturing.

(U) The accomplishments of the modernization and expansion program are quite noteworthy. Over a billion dollars worth of facilities have been designed, over six hundred fifty million dollars' worth have been procured and nearly two hundred million dollars' worth have been completed and are in production. But, perhaps more significant than the statistics, is the fact that we have developed an in-house cadre of engineers and managers capable of executing this program for the Government. In addition, private industry has been mobilized to bridge the technology gap essential to the design, construction and operation of new facilities.

Program Management

(U) During FY 1976, major efforts were directed toward preparation of the FY 1975 Munitions Production Base Modernization and Expansion Plan, its Executive Summary, the Integrated Engineering Plan, and

automation aids for FY 1976. Developed by comparing mobilization requirements with the capacities of the current munitions production base, the Modernization and Expansion Plan provides expansion projects to modernize the existing base. These projects reflect the constraints of yearly budgets, technological availability, precedent projects, current scenarios, and a priority sequence for including expansion and modernization within the program. Also taken into account are effects in the areas of safety, health, pollution abatement, economic payback, deteriorated conditions, and critical resources. The Executive Summary is a cost, funding, and item/project oriented analysis of the Modernization and Expansion Plan for management, highlighting key areas and the methodology used to produce the plan.

(U) To improve the response time and ensure the quality of future Modernization and Expansion Plans and their Executive Summaries, development was initiated early in FY 1975 to establish adequate data bases for the information used in producing each. In addition, these data bases are to serve as a source for providing consistent information between all involved segments of PBM, especially to higher headquarters, on a timely basis. The mobilization requirements, production capacities, munition items involved, and projects for expansion and modernization are all incorporated and logically tied together in RAMEP (Requirement Analysis for Modernization/Expansion Plan), the major computer effort for PBM.

(U) The need for quick browsing and the ability to ask unique questions has been recognized, and the RAMEP data as well as the 101 Data (Milestone Reporting System) have been put into a "Data Base Management System" called System 2000. The potential for System 2000 lies in the ease at which data can be retrieved by novice users in combinations of their choosing. It has also served well as a means to check the quality of RAMEP data.

(U) In the area of Manufacturing Methods and Technology Engineering (MM&TE) projects, the Integrated Engineering Plan is the Bible and the result of much the same kind of effort as the Modernization and Expansion Plan. Some projects tie directly into facility projects, others are indirect, and still others are technological improvements. Selection is made based upon the relationship and the same considerations used in developing the Modernization and Expansion Plan. Computerization of this data has been serving as an important tool in developing the latest Integrated Engineering Plan.

(U) A system called CAPER (Control and Performance Evaluation Review) was also developed during FY 1975. While not operational as yet, it is the result of intensive comparisons and research into available methods for top management judgment as to the status of a project and indicating problem areas. Also, during the past year, some

dramatic improvements have been made in the project control area. The Control Center has become a key segment in providing timely, accurate data and information to the PM and his staff. The heart of the control mechanism is the "101" system. This computerized management information system "tracks" milestones of project planning, development and execution. Several changes were added to the system during the past year. The changes were implemented by the 21 Ammunition Plants with few problems and a minimum of turbulence. The key to the 101 system is its simplicity, a major factor in its success. Field and in-house managers find that they can readily use the system. In addition, the Control Center maintains project control boards. The PM and his staff participate in weekly status briefings in a typical "WAR ROOM" environment.

(U) A common data base was established for the Facility and MM&TE Programs during the past year. The data is used to provide input to the RECAP and monthly data for the Project Manager's Reference Book. This data base is also used to update funding charts for the Facility and MM&TE Programs and furnishes and distributes weekly status of prior and current fiscal year for the facility program.

(U) In the early days of the project, it was determined that there was a need for an automated system that took the voluminous CS² reports which contain much detailed information as well as information on projects outside the mission of this office, and to quickly reduce these reports to simple understandable graphs that picture status of project cost and schedule. A program was developed during FY 1975 which checks the logic and mathematics contained on CS² reports. The information is then applied to another computer program which computes an independent estimate at completion for each project. Essentially, this program compares past planned costs for elements of work with the actual costs for those elements of work and assumes that on the average the same actual to planned cost ratio will continue on that project in the future and thereby extrapolating the independent estimate at completion. The information is then entered into a Calcomp graph plotter using a routine which reproduces two graphs for each project showing the percentage behind or ahead of schedule and cost, and showing the number of dollars the project is behind or ahead of schedule and cost.

(U) An ancillary program to that described above was developed during FY 1975 which is capable of taking all the projects at a given plant and giving a summary status in terms of the total amount the projects at that plant are behind or ahead on schedule and cost. This same program can give summary and separate totals for the MM&TE projects and facility projects. The program also gives summary information applicable to organizational elements within the PM's Office.

(U) During 1975 a Monte Carlo computer assisted program was developed which determines the level of confidence in completing the program within the dollars requested. It also presents a histogram that identifies the elements of cost that have the greatest effect on the level of confidence for the project. This information permits the manager to take several courses of action, such as: additional investigation or design work to reduce the uncertainty; or substitution of an alternative design. Similar cost elements across all projects that continually give large uncertainties can also be identified and management action taken.

(U) An interacting computer program which automatically prepares economic analyses was also developed during FY 1975. The operator inserts non-recurring construction and equipment costs and recurring present alternative and proposed alternative costs. The program produces as an end product the savings-to-investment ratio, return on investment, and the uniform annual cost, in addition to the full formal economic analyses presentation. This takes about six minutes of computer time. The same effort by hand would take about an hour. This program permits the analyst to vary the input and determine what assumptions are the most sensitive in achieving the economic benefits propounded by the project.

(U) A mathematical model for Omnibus funds was also developed. Prior to the authorization of an Omnibus fund, the expenditure rate for all projects was rather poor because of the design effort that had to be accomplished in the first year or two after the project was authorized and before procurement could be initiated. In addition, the cost estimates for projects were imprecise because design upon which the estimate could be based was not available. In recent years an Omnibus fund has been authorized which permits the accomplishment of design prior to the introduction of the project estimate in the President's Budget. Therefore, project estimates are now more precise and procurement action can be initiated almost immediately upon project approval.

(U) The effects of inflation on cost estimates were relatively insignificant and predictable until early 1974. It was at that time that a concerted effort had to be made to assure that reasonable and supportable inflation factors were included in project estimates. As is frequently the case, the guidance received from higher authority was general in nature and did not always fit circumstances surrounding the modernization and expansion program. A great deal of time and effort was spent during FY 1975 in coordinating with the plants, ARMCOM Headquarters, AMC Headquarters and DA on the subject of inflation for the FY 1976 budget submission. We were authorized to develop inflation indices tailored to the Modernization and Expansion Program. These indices were described using essentially the Bureau of Labor

and Statistics "Wholesale Price Index for Machinery and Equipment" and Commerce Department "Construction Cost Index for Construction."

(U) In June of 1975, this office concluded an agreement with Corps of Engineers, Huntsville, to apply Life Cycle Costs (LCC) during the design phase to the construction effort. During the past several months, we have been studying the application of LCC to equipment procurement. When procurement of equipment is accompanied by a hardware buy, the essential elements of life cycle costing exist. However, these elements do not presently exist when we buy equipment without accompanying hardware buy. To date, we have developed an evaluation clause for an LCC contract which does have an accompanying hardware buy. This clause provides for a simple quantifiable determination of best life cycle buy. However, we have not to date, developed a method based on acceptance criteria that will assure us that the equipment has the life cycle capabilities we paid for when such equipment procurement is not purchased with a production hardware buy. We are working on this problem utilizing statistics and other methods but the study is not complete as of this report date.

(U) In the fall of 1974, this office proposed to ARMCOM Corps of Engineers the development of coordinated procurement plans. The Corps of Engineers undertook an initial draft of such a plan and after several months of coordination between Huntsville, ARMCOM and this office, a basic plan was developed. It is the aim of this plan to involve procurement personnel early in the program where there is both CE and AMC effort on the same project. As a handmaiden to the coordinated procurement plan effort, an agreement was reached with ARMCOM on the execution of procurement plans for each contract that gives major milestones from receipt of funds through delivery of equipment. This plan (AMCPM-PBM RCS: 113) will become part of the coordinated procurement plan.

Joint Conventional Ammunition Program Modernization and Expansion Plan.

(U) During FY 1975, the Joint Conventional Ammunition Program (JCAP) Modernization and Expansion Task Group Activities were dominated by the development of the DOD Modernization and Expansion Plan directed by the Secretary of Defense in the OSD Planning and Programming Guidance Memorandum issued in February 1974. The methodology and concept for the JCAP Modernization and Expansion Plan was developed and prototyped using the input for the POM in the Spring of 1974. The prototype was iterated several times at the Task Group and Operating Group levels with the result that some 26 duplicating projects were identified and eliminated between May 1974 and August 1974.

(U) During the prototyping stage, it became evident that the milestone plan developed to meet the ASD(I&L) due date of December 1974 was not feasible because Service requirements, particularly those of the Army and Air Force, would not be received until September. Working with the Army and Navy Project Manager staffs, a realistic date of 1 February 1975 was proposed through the Military Departmental Staff and Secretariats and the Office of the Secretary of Defense, and, after negotiation, was agreed upon.

(U) Upon receipt of all Services' requirements in September 1974, production base analyses were conducted and the impact of these and the Service requirements were then evaluated by the Army and Navy Project Managers. On 26 November 1974, in collaboration with the Project Managers, the first of four iterations of the Joint Modernization and Expansion Plan was completed. The final version of the plan was delivered to OASD(I&L) on 28 January 1975. It has been estimated that between five and ten million dollars in savings was attributable to the JCAP effort in eliminating duplication of effort during the preparation of the plan.

Frankford Arsenal Liaison Field Office

(U) Based upon a verbal agreement between the Project Manager for Munitions Production Base Modernization and Expansion (PM-PBM) and the Commander, Frankford Arsenal (FA) in the Spring of 1974, a military position within the PM's office was authorized at FA to serve as a liaison representative of the PM. Following orientation at the PM's office in mid-August, the Liaison Field Officer (LNO) was verbally chartered by the PM to operate under the Executive Officer (later redesignated as the Assistant Project Manager). Day-to-day activities were to be carried out under the direction of the Chiefs of the Metal Parts (MPTS) Division, Plant Equipment Package (PEP) Division, and Propellants and Explosives (P&E) Division. Other elements of the PM staff were directed to utilize the liaison function as they required. On 20 September 1974, the PM directed that a Charter for the LNO be written, and this Charter was released to FA for comment on 10 October 1974. FA concurrence was received on 8 November 1974, and the Executive Officer, PM-PBM, forwarded the approved Charter⁵ on 2 December 1974. The LNO responsibility as chartered was to insure effective communications about the Modernization and Expansion Program between the PM's staff and all elements involved in that program at FA. Corrective actions at progressing levels of authority in order to avert or solve problems that arose was a primary responsibility at the LNO. During the period 23 August 1974 and 30 June 1975, the LNO was involved in all PBM program elements at FA. Actions ranged from routine coordination of meetings to crisis management of procurement awards.

⁵Disposition Form, AMCPM-PBM-XO, Subject: Mission and Functions for PBM Liaison Officer, Frankford Arsenal, 2 Dec 74.

(U) Beginning in September and throughout the period through June 1975, the LNO observed a lack of firm direction of the FA SCAMP (Small Caliber Ammunition Modernization Program) projects at PBM. The LNO, by being present on-site, was able to remind FA of the PBM Charter, authority, and responsibility. This probably avoided complete independence of action on the part of FA. During the period 18 June to 30 June, LNO was able to exercise a system of information sources to keep PBM informed about FA requirements and actions. This created a feedback loop which FA, on its own, was not able or willing to establish, but which allowed PBM staff to assess accurately output actions at FA versus input direction from PBM.

(U) Then, on 21 November 1974, an announcement was made that FA would be closed by September 1977. LNO was involved from that date in gathering information and the impacts these would have on support of the PBM program. LNO was directed by the PM on 14 February 1975 to write a transition plan which would provide for the transfer of support for all projects in progress or planned for FA. This plan was sent to the PM on 13 March 1975 and was given to selected members of the PBM staff for review. In the meantime, ARMCOM Headquarters' planners had integrated the closure action requirement with the requirements generated by the 25 February 1975 announcement by the Department of the Army to consolidate armament development and logistics activities in two headquarters at not less than three sites. These requirements were finalized in late March; however, they were previously assumed by LNO (from information fragments) and thus were included in the transition plan delivered on 13 March 1975. The decision to implement closure was delayed by a Federal court hearing of a suit brought by the FA Government Employees' Union in May 1975. As of 30 June 1975, the court had not rendered a decision in the case and all actions to transfer functions were held in abeyance.⁶

Rock Island Arsenal Liaison Office

(U) The Project Manager's Liaison Field Office located at Rock Island Arsenal (RIA), Rock Island, Illinois was established during the summer of 1973 with the approval of a TDA for two Liaison Officers and one secretary. As the Project Manager's missions, responsibilities, and organization grew, so did the Liaison Office's activities increase proportionately. The RIA Liaison Office's TDA was increased from three spaces to the present five spaces. The Liaison Office at RIA provided coordination and technical and programming information pertaining to the Munitions Production Base Modernization/Expansion Program for the Project Manager (PM). The Liaison Office also assured timely execution of staffing and coordination of numerous project actions at RIA and

⁶For the details of several problems handled by the Liaison Field Officer at Frankford Arsenal during FY 1975, see the MPBM&E Annual Report of Major Activities in the Historical Source Files in the AMC Historical Office.

maintained liaison with appropriate representatives in the Army Materiel Command, Installation & Service Agency (AMCIS-RI), Production Equipment Agency (PEQUA), Corps of Engineers (CE) and Headquarters, US Army Armament Command.

(U) The RIA Liaison Office represented the PMO at the Production & Procurement Directorate (AMSAR-PP) and Industrial Management Division (AMSAR-PPI) weekly staff meeting expediting actions necessitated by these meetings. Also, the RIA Liaison Office forwarded the minutes of the Commander, ARMCOM weekly staff meeting to the APM and represented the PMO at all HQ, ARMCOM Junior and Senior Program Budget Advisory Council (PBAC) meetings. The Liaison Office also participated in all quarterly and special project reviews hosted by HQ, ARMCOM for the FY 1975 and prior year projects, FY 1976 and FY 1977 budgets and the FY 1978 pre-budget.

(U) The Armament Command was, in most cases, extremely cooperative and helpful during FY 1975. All of PMO requests for information were answered in an expeditious manner. Our relationship with the various HQ ARMCOM Directorates and offices was excellent. Of special importance for the future, was the expected phaseout of many ammunition plants and the efforts required in support of the PMO activities at these plants during layaway.

Washington Field Office

(U) The Washington Field Office, PM-MPBME, was established 9 December 1974, to facilitate day-to-day liaison between the Project Manager and the Commanding General, AMC and his staff. The pervasiveness of the Munitions Production Base Modernization and Expansion Program is such that it interrelates with many diverse activities within AMC, DA and DOD. For this reason, it was necessary to insure that the Project Manager be fully cognizant on an immediate basis of the operational activities and decisions at these Headquarters, but more important, play an active and influential role in the planning and policy formation which affected the MPBME program. The mission of the Washington Field Office, PM-MPBME was to serve as the Project Manager's representative at Headquarters, AMC, for all information concerning the Munition Production Base Modernization and Expansion Program and act for the Project Manager in coordinating project matters and to anticipate any difficulties which would impede the program. The functions of the office included the provision of on-site liaison and close coordination with Headquarters, AMC, other Department of Army organizations, Department of Defense and other agencies in Washington, DC area which might influence or be involved in the program.

(U) Other responsibilities of the office were to: maintain coordination with all divisions and other liaison field offices within

the Project Manager's Office; monitor progress of actions being processed by other organizations relating to Mod/Exp to assure accomplishment of planned objectives; participate in meetings/conferences and briefings and advise the Project Manager or his staff of problems, policies, or procedures affecting the Mod/Exp program; participate in development of Mod/Exp policy papers; assure that appropriate levels of government organizations are apprised of Mod/Exp problems, proposed solutions, policies, and procedures; and establish and maintain files of reference material to permit rapid response to requests for information and basis for action on correspondence.

(U) The MPBME Program included \$324.3 million of Manufacturing Methods and Technology Engineering (MM&TE) in support of an approximately \$6.4 billion Modernization and Expansion Program over the period FY 1970-1988. It involves modernization and expansion plans covering 25 US Army Ammunition Plants, seven Arsenals, one Laboratory, and for 156 Government-owned Plant Equipment Packages (PEP's) to include 125 in contractor-owned and operated facilities and the remainder in Government facilities.

(U) The FY 1975 MPBME Program included 27 Facilities/Projects valued at 160.0 million and 50 MM&TE projects valued at \$35.2 million. The office was charged with the responsibility for expediting and monitoring project submission, review, processing and approval at AMC, DA, and DOD levels as appropriate. A reporting format to reflect the status of projects was developed and implemented. The report provided basic information to develop inputs to the weekly project reviews conducted for the Project Manager. It provided a management tool for the identification of problem areas requiring staff follow-up or intensive management by the Project Manager. The expeditious processing of project submission required frequent telephone calls and personal visits on an almost daily basis to the various levels involved in the Production Base Support process.

(U) A DOD Draft Directive concerning the single manager assignment for conventional ammunition was circulated to applicable elements of AMC headquarters for comment in May 1975. The Directive assigned the Secretary of the Army as the Single Manager for procurement, production, supply, and maintenance of conventional ammunition within the Department of Defense. Included within the assignment was the management, operation, and maintenance, including any necessary modernization and expansion, in accordance with applicable references and directives, all DOD installations and facilities involved in, capable of, or required to manufacture explosives, propellants, and metal parts used in ammunition and to load, assemble, and pack such ammunition. These responsibilities fell within the purview of the Project Manager, MPBME. This office, in coordination with the MPBME staff, furnished comments as requested. This office continued to function as the focal point in AMC on SSM with reference to the areas of interest affecting the PM-MPBME.

(U) The Washington Field Office, PM-MPBME provided staff support during FY 1975 on numerous other matters including: review of mobilization planning, energy technical applications, validations of economic analysis, and general administrative matters.

US Army Satellite Communications Agency

Background

(U) The United States Army Satellite Communications Agency (USASATCOMA), based at Fort Monmouth, New Jersey is the focal point for military satellite communications. As Army Project Manager for satellite communications, the Agency is responsible for the earth environment of Department of Defense (DOD) satellite communications systems. The SATCOMA Project Manager also acts as the Army's agent for all international military satellite communications programs, represents the Army in special DOD satellite projects, provides the ground environments for the Global Positioning System (GPS) and exercises complete life-cycle management and support for the Tri-Service satellite communications earth terminals.

(U) The Agency is an integrated facility performing satellite communications system engineering, research and development testing and evaluation, and support functions for the Army under Headquarters, US Army Materiel Development and Readiness Command (DARCOM). The Agency also directs the operations of the 235th Signal Detachment (TACSATCOM), a Forces Command element, when this unit is in garrison at Lakehurst (N.J.) Naval Air Station testing and demonstrating tactical satellite communications equipment.

Tactical Systems

(U) Development of a family of tactical satellite communications terminals has been proceeding under contract to RCA Corporation, Camden, NJ. The program consisted of a Trailer Terminal AN/MS-59; S-250 Shelter Terminals AN/TSC-85 V1 and V2 mounted on 1 1/4 ton vehicles; and S-280 Shelter Terminal AN/TSC-86 mounted on a 2 1/2 ton vehicle. These terminals are characterized by their ease of setup and high degree of transportability, maintainability, reliability and low-cost production. They are configured to provide point-to-point and multi-point capabilities where conventional ground communications equipment cannot operate.

(U) In December 1973, an additional contract for the TACSAT Control Terminal was awarded to RCA. The control terminal is designed to increase the utility of tactical satellite communications by organizing user access to the satellite and managing the radio frequency assets, including that portion of the DSCS satellite power assigned by the Joint Chiefs of Staff for tactical Army use. Deliveries of SHF Terminals commenced in April 1975 with final delivery in June 1975.

The Tactical Control Facility (AN/TSQ-118) was also delivered in June. Testing of all SHF terminals commenced in June 1975.

(U) In June 1974, a contract was awarded to Cincinnati Electronics for the design and development of a UHF manpack terminal, incorporating development of a modem to be installed in a future UHF vehicular and shelter terminal. The terminal would be capable of communicating in a paging mode to a man in motion. Upon receipt of a paging signal, the manpack terminal 6 dB antenna is deployed and communications back to the base station initiated in either the voice or burst modes.

(U) A letter contract for the European Test Bed, consisting of 21 UHF Ground Terminals was awarded in October 1974 and definitized in June 1975. These terminals would provide a satellite communications capability to selected Special Ammunition Storage (SAS) sites. This would make possible a thorough test of their communication mode.

Strategic Systems

(U) The contract for Heavy Terminals, with Aeronutronic Ford, has been proceeding very well. An effort associated with the contract has been the coordination, with the military department and NSA, to assure timely availability of sites to accept the terminals.

(U) A contract was awarded the Harris Corporation (Electronic Systems Division) for the development of a 20-foot antenna (with a G/T 26 dB). The antenna was intended for use with the Satellite Communication Terminal AN/TSC-86. It would furnish the terminal with a greater communication capability than the 8 foot antenna which is generic to the AN/TSC-86.

(U) Four AN/TSC-90 Satellite Communications Terminals were delivered to the White House Communication Agency during FY 1975. These special transportable terminals were developed under contract with International Telephone and Telegraph Corporation. The terminals were intended for special purpose, contingency operation with the DSCS. The packaging design makes possible easier installation and operation in difficult-access locations.

(U) In 1974, the Agency completed modifications of 14 AN/MS-46 terminals in the DSCS. Thirteen AN/TSC-54 terminals also were modified and deployed to their field locations. These terminals were modified to improve availability by addition of redundant systems. During 1975, as a result of these modifications, there was a marked increase in the availability of these terminals.

(U) Tobyhanna Army Depot was involved in the fabrication and assembly of Digital Communication Subsystems (DCSS) for use with

strategic satellite communication terminals. They have completed the assembly of the prototype unit. During the past year, procurements were placed for equipments which were to be integrated into the DCSS. These equipments are the A/D Converter CV 3034, BPSK modem 920/921, and a QPSK modem.

(U) It is noteworthy that the final FY 1976 Program Budget Decision in the DSCS Program was released in December 1974. This decision indicated that beginning in FY 1976, the DSCS Program would be funded totally by Army. Heretofore, OPA funds from Navy, Air Force and NSA were provided to USASATCOMA by MIPR.

(U) As part of the Agency's life-cycle support responsibilities as Satellite Communications Project Manager, on-site technical assistance was provided to deployed Tri-Service earth terminals on 40 different occasions during FY 1975 for the resolution of operational or maintenance problems which were determined to be beyond the capability of site personnel.

Global Positioning System (GPS)

(U) The Global Positioning System (GPS) is a Joint-Service Program in which the Army, Navy and Air Force are funding and participating in Contractual/Study efforts to develop a network of satellites and a family of Ground/Sea/Airborne equipment which will permit the accurate determination of three dimensional position and velocity in near real time. The Air Force has been designated the executive service for the GPS. The basic GPS contract for the Control Segment and User Equipment was awarded in October 1974. One of the user equipments of greatest interest to the Army is a terminal capable of being transported by men. Such a terminal is being developed under the basic GPS contract. To provide competition for this equipment, the JPO was authorized to undertake an alternate development of a manpack (MP) terminal. At year's end, a contract award for an alternate development contract was pending.

235th Signal Detachment (TACSATCOM)

(U) The 235th Signal Detachment (TACSATCOM), a FORSCOM element based at Lakehurst Naval Air Station, continued to provide satellite communication support to the President, and the Military Departments. In July 1974, a TACSATCOM team was deployed to the city of Minsk, USSR. There, it established a satellite link to an earth terminal at Fort Monmouth, NJ with circuit extensions to the WHCA switchboard in Washington, DC for communications support of the President of the United States during his visit to Minsk.

(U) In October and November 1974, TACSATCOM teams provided UHF and SHF communications support between elements of the 1st Infantry Division in the Federal Republic of Germany and its headquarters in Fort Riley, Kansas, as part of the annual Reforger exercise. And during May 1975, support was provided to XVIII Airborne Corps at Fort Bragg, N.C. for Exercise Solid Shield using both SHF UHF TACSATCOM assets.

(U) In June 1975, TACSATCOM personnel introduced the RCS SHF Multichannel terminals during a live demonstration at the Pentagon. During this demonstration, a satellite circuit between Germany and Washington was terminated both at the Pentagon and, by remote leased wire lines, at the National AFCEA convention in Washington, DC.

Agency Internal Effort

(U) Following the loss of the Under-the-Sea Cable with the capture of NHA-Trang, a modified AN/TSC-54 Terminal was airlifted to Saigon RVN to provide 12 channels of communication to the US. It performed without failure from 28 March 1975 until the last day of the evacuation (29 Apr 75) at which time the terminal was destroyed.

(U) As a basis for logistic support implementation of the operational DSCS, the Initial Logistic Support Plans for the Earth Terminal Complexes using Satellite Communications Terminals, AN/MS-46 and AN/TSC-54, for Phase II Stage 1B operations were issued in May 1974. These were tri-service coordinated and distributed worldwide to the tri-service and military depot users.

(U) During June 1975, WHCA was provided with a Digital Communications Subsystem consisting of two MD-921 BPSK Modems, one TD-660 PCM multi-plexer and one ES-2 Echo Suppressor. This equipment was interfaced with the AN/TSC-90 Satellite Communications Terminal and was used for the presidential system during his visit to Helsinki, Finland in July 1975.

(U) A special IPR of the Tactical Program was held in July 1974 at which time the Agency presented a Draft TACSATCOM SDP to the appropriate Army elements for preliminary coordination, and a baseline cost estimate for the TACSATCOM program was approved in September 1974.

(U) During June 1975, WHCA was provided with a Digital Communications Subsystem consisting of two MD-921 BPSK Modems, one TD-660 PCM multi-plexer and one ES-2 Echo Suppressor. This equipment was interfaced with the AN/TSC-90 Satellite Communications Terminal and was used for the presidential system during his visit to Helsinki, Finland in July 1975.

Saudi-Arabian National Guard History

(U) At the time of Solomon of Israel and Sheba of Yemen, trade in gold, spices, and salt flourished along the main route between the two countries. Chief of the cities on the route was Mecca, where Abraham built his altar to God and from which Mohammed fled in order to give birth to the Islamic faith, which he viewed as but a return to the religion of Abraham. Mohammed's successors not only carried Islam to southern France and Chinese Turkestan, but also carried away the best and brightest, leaving the peninsula a vacuum except for petty, feuding tribes of which Al Saud was but one. In the mid-1700's the Saud tribal leaders allied themselves with the puritanical reformer al-Wahhab and spread its puritanism and rule as far as Yemen, Oman, and Kuwait. This thorn in the side of the Ottoman empire was removed by the Turkish-sponsored Egyptian, Ibrahim Basha, who, in 1819, destroyed the Saudi capital of Diriya. Al Saud fled to Kuwait and it was not until 1902 that his son, Ibn Saud, captured the fortress of Riyadh which still stands in the city center. Not until 1925 did Ibn Saud consolidate his rule in the present boundaries and that largely with the help of Ikhwan, a puritanical brotherhood of swordsmen that he had created. In a short time their blood lust for converts to Islam forced Ibn Saud to disband the Ikhwan and turn for support to tribal levies for manpower, whose loyalty he assured by gold and by marrying their daughters. These bedouin levies became known as the White Army (because their uniforms were white thobes), the forerunner of what is now called the Saudi Arabian National Guard, or SANG.

(U) Western influence in the Guard began after World War II as part of British defense plans for the Suez Canal. British influence continues today with a full-time British Brigadier and a staff of six on duty in the SANG Headquarters as advisors and, indirectly, through the ex-Arab legionnaires who make up a substantial number of the officers in today's Guard. The Guard has gradually but only recently (since 1965) introduced westernized uniforms and close-order drill to replace the thobes and crossed bandoliers which went before.

(U) Following are some specific operational missions assigned to the SANG during the past few years: in 1967, concurrent with the Arab-Israeli War, ARAMCO oil workers in the Dammam port area near Dhahran staged an anti-US demonstration protesting the support given Israel by the US. A SANG battalion was dispatched to the scene and very quickly and forcefully ended the demonstration. When South Yemen forces crossed the border at Sharurah in 1970 two SANG battalions were in combat at the border within 48 hours, and others were providing guides and transport for the Saudi Army; in 1972 the ruling element in the

small country of Qatar was removed by a coup. The deposed ruler attempted to incite a civil war which threatened to spill across the border into Saudi Arabia. In a show of support for the new ruling element, Saudi Arabia stationed two battalions of the National Guard troops at the border town of Selwa. Only recently have they been reassigned from that mission; from time to time acts of sabotage against the northern oil pipelines have occurred, allegedly by Iraqi leftists and externally-based Saudi extremists. These threats have been met by stationing additional SANG units at the pipelines, thereby giving effective coverage along the entire length of the line; and SANG guardsmen also protect strategic facilities such as communications installations, embassies, and foreign missions.

(U) The SANG is commanded by HRH Prince Abdullah Ibn Abd al-Aziz, who is also Second Deputy Prime Minister and follows King Khalid and Crown Prince Fahd in precedence. The SANG was for years a paramilitary organization, with various trusted tribal chiefs commanding units of varying size and formality of organization. Over the past decade, the SANG has begun to organize into battalions of about 1,000 men with standard uniforms and equipment. Each battalion commander still takes his orders directly from Prince Abdullah.

(U) The Saudi Arabian National Guard (SANG) is a tribally-based army with the mission of: complementing the Saudi Army, Air Force, and Navy in defense of the Kingdom; maintaining internal stability; guarding key installations such as oil fields, refineries, and pipelines; and providing special security for the royal family. At the end of 1975, the Saudi-Arabian National Guard had a strength of about 26,000 active duty bedouin tribal volunteers and was composed of 20 regular battalions and 26 irregular battalions. The regular battalions were stationed near population centers, the eastern shore oilfields, and along the oil pipelines. Nine regular battalions were stationed in the greater Riyadh area. The irregular battalions are seldom activated and exist primarily for the distribution of royal stipends to ensure the loyalty and availability of the bedouin tribes.

(U) Though the active duty National Guard strength was about 35% smaller than the Saudi Army, it exerted a royal scepter out of proportion to its physical size. The Saudi Arabian National Guard is not analogous to the National Guard in the United States. It is not a reserve military element, but rather is a prestigious entity in the governmental hierarchy.

(U) There were many retired Jordanian officers in staff and command positions in the SANG, but these were gradually being replaced by officers who began their military careers in the Guard. The typical

SANG junior officer was a high school graduate who had completed an officer's candidate course administered by the SANG. An increasing number of these officers also attend courses at British military schools. The typical SANG soldier had a tribal background and spent his childhood in a tribal village or in one of the smaller cities. He was well motivated, but not in the habit of using his initiative, lest he appear to usurp command authority in the highly centralized SANG. This reflects the conservative Moslem society. A paradox in the SANG, as in the Saudi society, is that a man's tribal position may be greater than his official position; there are many occasions when a senior official defers to a junior for this reason.

(U) The general organization and command structure as of the end of 1975 of the National Guard was as follows: the command line from each of the combat battalions runs from the battalion commander directly to Prince Abdullah. If Prince Abdullah is absent his half-brother (Prince Badr) acts for him, but very cautiously. Sheikh Abdul Aziz Tuwaijiri, recently elevated to be the Assistant Deputy Commander of the Guard, has Prince Abdullah's complete trust. The Sheikh performs as a Chief of Staff for the day-to-day operations of the Guard, and he is the Project Manager's primary point of contact with the SANG for resolving problems. The regional and staff Wakils (Wakil means Deputy) get their orders directly from Prince Abdullah. The regional headquarters of the Guard were located in Dammam, Jidda, and Arar. Primarily they act as administrative staff elements. The SANG staff Wakils were located in Riyadh at the SANG Headquarters.

(U) The organizational arrangement has some deficiencies. First, decision making authority seems highly centralized; for all practical purposes only three or four persons can make significant operational decisions. Secondly, the span of control appears too great for effective management, being compounded by the problem of minimum downward delegation of authority and the relatively austere communications capabilities of the Guard. Thirdly, lack of staff coordination, modern staff action and coordination concepts have yet to be learned and practiced--this deficiency severely hampers the resolution of routine problems.

(U) In negotiations of March 1973 the Government of Saudi Arabia sought an agreement with the Government of the United States to provide assistance in modernization of its National Guard. In so doing, the Saudi-Arabian Council of Ministers and the National Guard Commander were thinking in terms of both national defense and internal security--because of the SANG's dual role in Saudi Arabia. The negotiations resulted in the United States agreement to assist Saudi-Arabia in their National Guard modernization program.⁷

⁷"Orientation Brochure," Office of the PM-SANG, Modernization Program, December 1975, RIYADH, Saudia Arabia, APO, New York 09038, pp. 2-1 to 2-4. (In files of AMC Historical Office Commanding General's correspondence under International Logistics - Saudi-Arabia.)

Office of the PM-SANG Modernization Program Established

(U) The Government of the United States and the Government of Saudi Arabia (SAG), on 19 March 1973, signed a Memorandum of Understanding (MOU) which committed the US to assist the SAG in a program to modernize the Saudi Arabian National Guard (SANG). Included in the MOU, the US Department of Defense, as mutually agreed, would execute appropriate Letters of Offer and Acceptance (DD Form 1513) to cover procurement of all defense articles and services to be provided. Based thereon, US Department of Defense Offer and Acceptance, case designation DA Saudi Arabia UIW, was executed and acceptance made by Saudi Arabia on 5 May 1973. The estimated total cost of the initial case amounted to \$3,000,000 for AMC and Corps of Engineers for planning and design services.

(U) In letter 27 April 1973, The Department of Army, Office of the Adjutant General, stated that consistent with the designation of the DA as DOD Executive Agent, The Commander, AMC, was assigned responsibility for general management and execution of the SANG Modernization Program. Further, within this delegation of Authority, the Commander, AMC was authorized to appoint a US SANG Modernization Program Manager and establish a US SANG Modernization Program Management Office.

(U) The program as agreed consisted of three major elements: sale of defense equipment and services through Foreign Military Sales (FMS) channels; design and construction of necessary facilities, installations and supporting elements; and, development, installation and initial operations of training, communications, logistics and maintenance systems.

(U) The TDA for the military staffing of 22 military spaces and 22 civilian spaces was approved by HQ AMC and by the DA staff (CPT Fulton). The method of determining required number of spaces was based on the type mission to be accomplished. DA, in the FY 1975 Budget & Manpower Guidance to AMC, reduced the authorized military spaces under Program 10 from 22 to 17 spaces (11 officers and 6 EM).⁸

(U) The PM-SANG Modernization Program was established 1 May 1973; however, the charter was not issued by the Secretary of the Army until 9 April 1974. During FY 1975 the office was mostly engaged in

⁸Memorandum for Record, AMCCP-BO, signed Col. Elton J. Delaune, 4 April 1974, subject: Saudi-Arabian National Guard Modernization Program (In File "International Logistics: Saudi-Arabia" in Commanding General's Files in AMCHO).

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organizational and mission planning without getting into actual operations in Saudi-Arabia. Brigadier General Richard D. Lawrence was designated Department of the Army Project Manager for the Saudi-Arabian National Guard (SANG) Modernization Program effective 21 May 1975 and delegated full line authority for the Commanding General, US Army Materiel Command to whom he was to report, exercising principal authority over the planning direction, execution, and control of the modernization program covering all elements, missions, functions, and requirements of the SANG.⁹

Mission, Organization, and Command Relationships

(U) The Modernization Program encompasses many aspects. They include maintenance and supply of conventional hardware, equipment, organization, communications, construction, medical organization, and personnel training. The OPM SANG staff has program management and contractor supervision responsibility in each aspect. The scope of the Modernization was initially focused on four mechanized infantry battalions and an artillery battalion, although such aspects as construction, logistics, and communications may later apply to larger SANG organizations.

(U) The Project Manager, to the extent required by law and executive directives, is under the jurisdiction of the US Ambassador to Saudi Arabia, and his actions are coordinated with appropriate elements of the diplomatic mission. The PM is a member of the Ambassador's country team. On policy matters, the Project Manager would communicate directly with the AMC, with information copies going to the US Ambassador, Saudi-Arabia and the US Military Training Mission, Saudi-Arabia, and other AMC, Army and Defense agencies.

(U) The Project Manager has operational control over the Modernization training through his civilian training contractors. It was originally planned to have only one prime contractor, but at SANG's direction three major training contracts have been awarded by the OPM SANG procurement element. All three contracts are of the Cost Plus Award Fee type. With the normal contract administration control exercised by the Project Manager's Office, each contractor's fee (profit) is dependent upon the continuous evaluation of their performance effectiveness by the OPM SANG staff.

⁹DA Letter, DAAG-PAP-A(M) (27 April 1973) DALO-ILS-D, subject: Saudi-Arabian National Guard (SANG) Modernization Program; AMC General Orders 136, 5 June 1976; Charter, PM-Saudi-Arabian National Guard (SANG) Modernization Program, Howard H. Calloway, 9 April 1974. Interview, Myles G. Marken, Sr., AMC Historical Office with MAJ Philip J. Sands of PM-SANG Modernization Program, 26 May 1976. (In file of AMCHO - Commanding General's Files).

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(C) An effort to realign the command, control, and support arrangements of US DOD agencies in Saudi Arabia was made by the office of the Joint Chiefs of Staff in May 1975. What the Joint Chiefs proposed was that one man coordinate all programs within Saudi Arabia. General Deane, the AMC Commander, did not agree and indicated that he desired no change be made to existing command and control arrangements in Saudi Arabia pointing out that there was a requirement for coordination but that this was rightly the responsibility of the ambassador. General Deane was concerned that the imposition of another coordinating element would degrade his authority and interfere in the execution of operations by "those who have no responsibility for the accomplishment of my assigned mission." The AMC commander indicated that his position would be untenable should the other coordinator be placed within the channel of command and control of the contractual effort to develop the Saudi Arabian National Guard. General Deane further opined that the organization in being had resulted in a "smooth running efficient program administration able to respond quickly to changing conditions" which he did not wish to see altered by a change which he believed would impede the decision making process. The commander's objection was so strong that he indicated that if the Joint Chief's suggestion for a coordinator of all programs in Saudi Arabia was promulgated, then: "AMC should be relieved of its responsibility for the SANG Program" and suggested that Chief, USMTM, then could assume the mission.¹⁰ At the close of FY 1975, coordination remained through the diplomatic mission and the US Ambassador to Saudi Arabia.

(U) That portion of the Modernization involving construction rests with the US Army Corps of Engineers, who have sole contractual authority in this regard; however, construction being an integral part of the Modernization Program, it becomes subject to approval of the Project Manager.

(U) Some members of the OPM SANG staff have been on the scene in Saudi Arabia since July 1973. The staff continued to grow and ultimately would reach a full strength of 55 military and civilian personnel according to plan. OPM SANG organized into two geographical elements; the central office in Riyadh, Saudi Arabia, and a Washington Office located in Alexandria, VA, within Headquarters, AMC.

(U) The Washington Office, while small in size (four personnel), acts as the focal point in the United States for liaison between the Project Manager and all interfacing US Government organizations and

¹⁰ Letter, AMCIL; General John R. Deane, Jr. to HQDA, 22 May 1975, subject: Realignment of Command and Control Arrangements of US DOD Agencies in Saudi Arabia (U), comment to J-5 P3671/1, same subject, 20 May 1975.

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commercial firms. The Project is operated primarily through two Assistant Project Managers (APM)--the APM for Training Management, and the APM for Logistics Management.

(U) The APM for Training Management assists the Project Manager in planning, organizing, and developing operational requirements. He monitors and evaluates contractor performance and maintains day-to-day liaison with HQ SANG. He accomplishes these tasks through his two branches--Evaluation Branch, which develops performance measures to support award fee determinations and monitors utilization and adequacy of facilities at the Khashm El An Training Camp; and the Operations and Requirements Branch, which develops plans and coordinates operational requirements with the SANG. This Branch also interfaces with the contractor Plans/Doctrine and Systems personnel.

(U) The APM for Logistics Management assists the Project Manager in the areas of logistics, procurement administration, and services. He also monitors and evaluates contractor performance. To accomplish these tasks, the APM for Logistics Management uses his Logistics Branch, which assists in matters pertaining to supply, maintenance, movements, and communications support of the Modernization Program; and the Procurement Management Branch, which plans, negotiates, awards, and administers all procurement actions associated with the Program. The Contracting Officer, assigned to the Procurement Management Branch, has direct access to the Project Manager for procurement actions and recommendations.

(U) The responsibility to manage and execute the SANG Modernization Program was assigned to the Commander AMC by DA HQ as the DOD executive agent. The OPM SANG was organized by AMC as an assigned unit. Subsequently, the Comptroller of the Army authorized the Project Manager to act as an installation commander under AR 735-11, limited to necessary functions. The chain of command back to and within AMC is established as follows: The Project Manager, Director for International Logistics, Deputy Commander for Materiel Readiness, Commander AMC. Program direction is largely exercised by the Project Manager, as Chairman of the Executive Management Committee consisting of key management officials of the OPM SANG staff and the prime contractor's staff.

Funding and Support

(U) Although the Modernization Program is financed by a trust fund with Saudi funds held by the US Army International Logistics Command, annual control is exercised by DA through the use of O&MA funds which are replenished from the trust funds. The program is totally funded through Foreign Military Sales (FMS) cases, including administration and support. This means, of course, that the Saudi Arabian Government is paying for everything connected with the Project. The

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program is executed through Master Sales Case DA Saudi Arabia ZAC (commonly referred to as ZAC). This sales case is unique in that it provides funds for the entire Modernization Program (excluding construction), but does not spell out specific items or services to be provided. The individual items and/or services are enumerated in amendments to ZAC, which are financially dependent on ZAC for funds.

(U) The US Army International Logistics Command (USAILCOM) receives the deposits, as scheduled in ZAC, from the Saudi Arabian Government and does the actual accounting and administering of the funds. The schedule of payments listed in ZAC must be arranged so as to maintain a sufficient level of funds to cover expenditures required by all amendments. Each amendment must be accepted by the SANG, but funds are already available from the trust funds held by USAILCOM. This is a program of impressive financial magnitude. The Saudi Arabian Government originally approved an expenditure of \$335 million for the program; however, due to worldwide inflation and certain SANG-directed actions not considered in original estimates, additional funds were to be requested of the Saudi Arabian Government in early 1976. The approval of these additional funds would more than double the total program value.

(U) Administrative and area support was to be provided by the US Army Engineer, Mediterranean Division, and US Military Mission, Saudi-Arabia in accordance with support agreements and area support directives.

Modernization Plan

(U) When Prince Abdullah (SANG Commander) first considered "Modernization" he made three stipulations: that each battalion contain at least 1,000 men; that they have armor; and that they have artillery. The SANG modernization program responds to these desires--the proposed mechanized infantry battalion TO&E contains 1,050 men; these battalions are equipped with the V-150 armored car; and the artillery battalion has 105mm howitzers. The Modernization Plan now being implemented will produce four mechanized infantry battalions and one artillery battalion.

(U) In concept, the batteries of the artillery battalion may be attached to the mechanized infantry battalions for task force operations, or may be used in general support of one or more mechanized infantry battalions. The present artillery battalion TO&E calls for three batteries, with six howitzers in each battery; however, in recognition of the recently expressed desire of the SANG for the capability of attaching modernized artillery to each mechanized infantry battalion, we have proposed a revision to the artillery battalion TO&E which includes four batteries, each with five howitzers.

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(U) The combat support company is a significant element of the modernized battalion. It has a reconnaissance platoon and an anti-tank platoon equipped with the Basic Vulcan Air Defense System. This unit also has an organic maintenance section which provides automotive, turret, and vehicular recovery support. We are concerned about the ability of the SANG to handle the complexity and span of control of such a unit. For example, the reconnaissance platoon of this company, alone, has 91 men, sixteen V-150 armored cars, and four commercial vehicles; a TO&E that is essentially the equivalent of an armor company, in the US Army. We believe it is too much for a Saudi Commander to handle at the platoon level. Consequently, we are revising this company's TO&E to simplify it without compromising the support it must provide. The revision will remove the anti-tank platoon (TOW missile) and most of the 90mm guns from this company and form a separate anti-armor company in the mechanized infantry battalion.

Surface Container-Supported Distribution Systems

Introduction

(U) The bulk of future commercial maritime dry cargo lift capacity would consist of container and container-capable ships according to DOD studies. Containerization was viewed as the key to major improvements in the efficiency and economy of logistics support to combat forces. Full exploitation of containerization throughout the DOD proved to be a continuing challenge involving difficult but necessary changes in traditional policies and functional operations. A DOD Container Supported Distribution System would require the capability for universal interchange of containers from their source to the end of the logistics pipeline. Difference modes, including air, of commercial/military transportation would have to mesh. Standardization of related handling equipment and software through the DOD wholesale and retail system would be mandatory. A strong central point for standardization and coordination of this complex effort would be essential.

(U) During the past four years, container system development was managed by the DOD Project Manager Surface Container-Supported Distribution Systems. After extensive review, the charter of the DOD Project Manager Surface Container Supported Distribution Systems was allowed to expire effective 30 June 1975. To maintain a required central focus and in conjunction with the termination of the DOD container system project, the Acting ASD (I&L) revised the management structure of the Joint Container Steering Group.¹¹

¹¹Memorandum Actg ASD (I&L), dated 17 Jul 75, Subject: Intermodal Container Distribution Systems Development.

Disestablishment and Reorganization

(U) Pursuant to the direction of The Assistant Secretary of Defense (Installations and Logistics), the Charter of the DOD Project Manager for Surface Container-Supported Distribution Systems expired 30 June 1975. The next day, 1 July 1975, the Office of Project Manager, Surface Container-Supported Distribution Systems was re-organized and redesignated as the Office of the Product Manager, Army Container-Oriented Distribution Systems (ACODS).¹² The resources of the DOD PM Container Distribution Systems were utilized to staff the Product Management Office pending approval of a Table of Distribution and Allowance.¹³

(U) During FY 1975, Colonel John J. Morris served as the Project Manager for the DOD, Container Distribution Systems (PMCS). The key staff members were: Deputy Project Manager - CDR (USN) Joe M. Hale; Technical Coordinator - LTC (USAF) Keith F. McElwain; Special Assistant to the PM - MAJ Anthony J. Braddock; Chief, Program Management Division - MAJ Richard W. Fischer; Chief, Concept Development Division - LCDR (USN) Orville L. Fisher, Jr.; and Chief, Technical Management Division - Mr. Rodney D. Hardy.

(U) The authorized manning level of the PMCS at the time of its disestablishment was 21 employees (17 Army, 2 USN, 1 USAF and 1 USMC). There were 17 (14 Army, 1 USN, 1 USAF, and 1 USMC) employees actually assigned. The organization chart is at Figure 4. In order to maintain the impetus of development in those areas where such is required, the following changes in management structure were made:

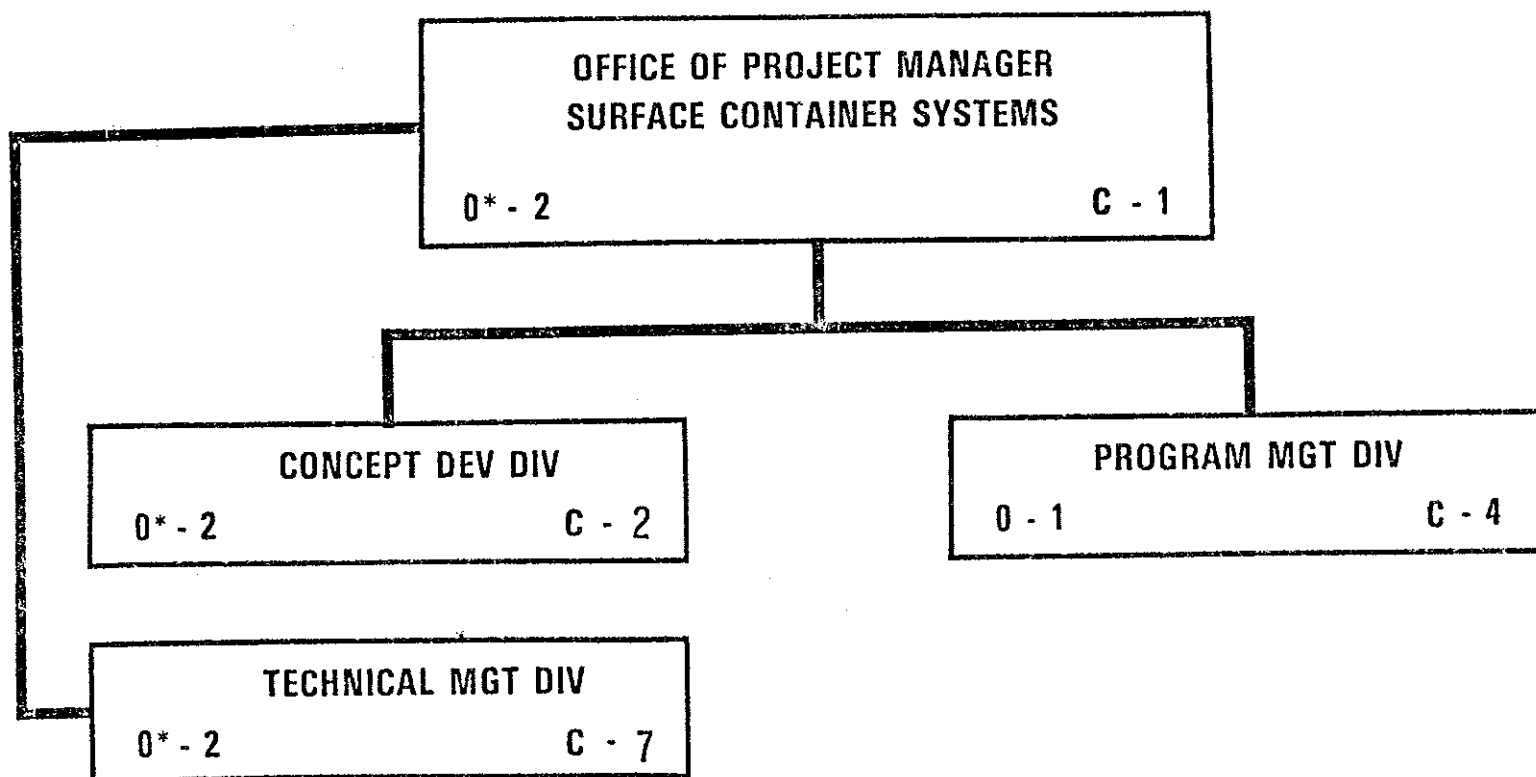
(U) Responsibilities of PMCS were reassigned with the offshore discharge system going to Army and Navy as a joint responsibility with subsystem responsibilities as follows: The ship unloading subsystem going to Navy with appropriate assistance from and liaison with Army; and the lighterage and shoreside subsystem going jointly to Army and Navy. The adaptation of commercial containers for ammunition carriage went to the Army, with appropriate liaison with the Navy. The development of a land-air-land container system was retained by the Air Force. The Container Steering Group was retained and under the permanent chairmanship of an OASD(I&L) representative. This chairmanship arrangement was to be tested for a period of one year. The Container Steering Group was to be retained under the Logistics Systems Policy Committee (LSPC) jurisdiction. The Container Standardization

¹²AMCPM Message 011617Z Jul 75, Subject: Establishment of the Office of the Product Manager (PM) Army Container Oriented Distribution System.

¹³AMC GO No. 117, dated 29 July 75.

DOD PROJECT MANAGER FOR SURFACE CONTAINER SYSTEMS

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SUMMATION

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() * OTHER SERVICE PERSONNEL

AUTH AS OF 30 JUN 75

Figure 23

Coordination Group reporting to the Steering Group, was to be established for a one year evaluation period.¹⁴

(U) The Product Manager, Army Container Oriented Distribution System would assume management responsibility for those functions of the PMCS that were transferred to the Army. The new Product Manager would absorb 12 (2 Military and 10 Civilians) Army personnel of the 14 individuals that were assigned on the termination date. The on-board other services personnel were to be absorbed by the joint-four man DOD Container Systems Standardization Coordination Group.¹⁵

Mission and Accomplishments

(U) The DOD PM for Surface Container-Supported Distribution Systems (PMCS) was established in June 1971. The Department of the Army was designated as the Executive Service for the Development Project.¹⁶ Subsequent to the approval of the Charter on 25 June 1971, a set of project milestones was approved by OASD(I&L). The PMCS was chartered with an established termination date of June 1974.¹⁷

(U) To provide a fully integrated approach to the systems development, the DOD directed the Logistic Systems Policy Committee (LSPC) to establish a jointly manned Steering Group composed of senior representatives of each of the military Services; the Defense Supply Agency; the Director, J-4 (Logistics), JCS; and OASD(I&L) to provide broad policy guidance to the Project Manager. The life of the PM charter was later extended through FY 1975.¹⁸

(U) The role of the PMCS was considerably curtailed in January 1974.¹⁹ At that time, a number of the systems development projects were transferred to the Military Sealift Command (MSC) and Military Traffic Management Command (MTMC), with the majority of equipment acquisition transferred to the Army and Navy. The PMCS retained direct responsibility for two projects. OSDOC (Over-the-Shore Discharge of Container Ships) and CADS (Containerized Ammunition Distribution System) were assigned an overall coordination role shared with OASD(I&L) in assisting the Container Steering Group in its coordination and surveillance of all container related efforts in DOD.

¹⁴ASD(I&L) Memo, dtd 11 Apr 75, Subject: Orderly Phase-Out of Project Manager for Containers.

¹⁵JASD(I&L) Memo, dtd 17 Jul 75, Subject: Intermodal Container Distribution System Development.

¹⁶Deputy Secretary of Defense Memo, dtd 8 May 71, Subject: Container-Supported Distribution Systems Development.

¹⁷PMCS Project Master Plan (PMP), including Change 2, 19 Aug 74.

¹⁸ASD(I&L) Memo, dtd 15 Jan 74, Subject: Extension of DOD Project Manager (PM) for Surface Container Supported Distribution System.

¹⁹ASD(I&L) Memo, 18 Jan 74, Subject: Assignment of Planning Responsibility for DOD Containerized Surface Cargo Distribution.

(U) The Surface Container Project Master Plan (PMP) was approved on 19 January 1973. It established 22 separate milestones that had to be achieved in the development of a coordinating system. The status of the PMP milestones at the disestablishment of the project is the subject of the next section.

Status of Milestones at Termination

(U) No. 1 - Establish a Surface Container-Supported Distribution System.

Status: Completed. The approved concept was published by letter, Subject: "Conceptual Description of the DOD Surface Container-Supported Distribution System, and the Approach of the DOD Project Manager for Surface Container-Supported Distribution Systems Development," from Chairman, Steering Group for DOD Container-Supported Distribution Systems Development, dated 13 April 1972.

Services/Agencies Involved: All

Critical Problems: Should be promulgated in a DOD Instruction.

(U) No. 2 - Determine Services' Current Peacetime Tonnage Requirements.

Status: Completed. Joint Service Regulations OPNAV 4600.17B/AR55-23/AFR75-37/MC04621.2A published 29 August 1974 prescribes an automated procedure which provides data elements such as commodity class, traffic area, month during which shipment will occur, and whether it will be breakbulk, commercial container or MILVAN. The system is fully operational.

Services/Agencies Involved: All

Critical Problems: None

(U) No. 3 - Determine Services' Wartime Tonnage Projections for Deployment/Resupply Plans.

Status: The maximum deployment requirements have been developed using Joint Strategic Capabilities Plan (JSCP) FY 1974 data. The percentage of the contingency requirement to be containerized in FY 1976 and FY 1980 was determined from the EUCOM Surface Lift Study. The findings would be included in the JSCP FY 1976 analysis to be published in December 1975. Review and update were ongoing tasks.

Action Responsibility: MTMC/MSC

Critical Problems: With the ever-increasing reconfiguration of the US ocean-going cargo fleet from breakbulk to containerships, the capability to handle outsize cargo (e.g., tanks, vehicles, construction equipment, etc.) presented a critical issue requiring resolution. Ammo containerization remained a problem since current capabilities were such that it would compete for scarce breakbulk shipping space.

(U) No. 4 - Establish Surface Container Control System

Status: Interface with commercial systems for control of surface container movements was in three projects at MTMC: establishment in December 1974 of Cargo Control Centers (CCC), at each MTMC Area Command to process data concerning movement of vans containing military cargo over commercial piers; the Surface Export Cargo System (SURS) was being upgraded so that the Terminal Management System (TERMS) Master File could be updated via on-line remote devices, and operational reports would be remotely printed at the appropriate site. Contingent on DA approval, this feature was scheduled for implementation during the second quarter of FY 1976; a concept for an automated cargo release system providing for complete control of freight movements and supported by an integrated data base was developed, and received local approval from the MTMC Priority Review Board. Proposal for short range system was being developed with a completion target date of 2 June 1975.

Action Responsibility: MTMC/MSC

Critical Problems: Interface of container control with intransit visibility requirements.

(U) No. 5 - Develop and Evaluate System for Automatic Sensing/Reporting of Container Movements.

Status: Fairchild Space and Electronic Company designed and produced three sensing devices and thirty remote reading labels. These were delivered in August 1974 to MERDC and were undergoing laboratory testing. At the end of FY 1975 there was no effort being expended on developing the system to use the sensing devices and labels, and there were no operational tests scheduled for the equipment.

Action Responsibility: Army (MERDC)

Critical Problems: As stated above, no evidence could be found that the system was being developed for operational tests and ultimate use. Similar efforts were being explored independently in other Services, indicating further need for DOD project surveillance, evaluation, and management.

(U) No. 6 - Develop Containerized Shipment Control System Providing Intransit Supply Visibility.

Status: Task Group 5-73 of the Logistics Systems Policy Committee completed a study of Intransit Item Visibility, and published a report in September 1974.

Action Responsibility: LSPC Task Group 5-73 for finding/recommendations. TOAs Services for implementation.

Critical Problems: None known.

(U) No. 7 - Publish Joint Container Operating Procedure for MILVAN General Cargo and Ammunition Containerization.

Status: Procedure was prepared, staffed, and scheduled for publication in May 1975 as a chapter of AR 55-355.

Action Responsibility: MTMC/MSC

Critical Problems: None

(U) No. 8 - Determine Requirements for Acquisition of Commercial Container Equipment and Facilities.

Status: The plans and procedures to acquire and allocate intermodal commercial container systems to meet national priorities were drafted. Proposed detail plan was being staffed by MTMC and was scheduled for publication as a DOD Instruction by 30 September 1975.

Action Responsibility: MTMC/MSC

Critical Problems: Legislative authority was required to acquire commercially owned containers during a national emergency.

(U) No. 9 - Prepare and Change DOD Instruction 4500.37 "Ownership and Use of Containers for Surface Transportation."

Status: Completed. DOD Instruction 4500.37 dated 5 October 1972 required that shelters and special purpose cans conform to standard ANSI/ISO container characteristics insofar as possible.

Action Responsibility: PMCS

Critical Problems: None

(U) No. 10 - Test The Electronic Label Logistics System (TELLS) for Future Systems Application.

Status: Fairchild Space and Electronic Company designed and produced two interrogator units, four storage assemblies, twenty-four storage modules, one thousand labels, one writing device, and one office van assembly. These were delivered in July 1974 to MERDC and were undergoing laboratory testing at the end of FY 1975. At this time, there was no effort being expended to develop a "supply system" using the equipment and there were no operational tests scheduled.

Action Responsibility: Army (MERDC) for equipment acquisition and testing.

Critical Problems: No Service/Agency was assigned responsibility for developing "supply system" concepts that would utilize this equipment. Situation similar to Milestone 5.

(U) No. 11 - Coordinate the Requirements for Plans to Develop Marshalling Areas, Container Handling Facilities, Revetments, Ramps, and Platforms; as Required at Depots and Ammunition Plants.

Status: Each Service was determining, on a continuing basis, the container handling facilities required at its installations.

Action Responsibility: Each Service for handling facilities at its installations.

Critical Problems: Assignment of responsibility to coordinate plans and developments of facilities DOD-wide.

(U) No. 12 - Coordinate the Requirement to Develop Additional Berths, Pier Gantries, Road/Rail Access and other Facilities, as Required at Ports.

Status: Using movement requirements developed in the JSCP for FY 1974, MTMC was stratifying port requirements by ship type (breakbulk, container, barge system), and by overseas destination and port of loading. Specific berthing requirements were identified. Action was initiated with MARAD to change and/or add facilities as required. Approval of new port requirements and their incorporation into contingency support plans was expected by 1 July 1975. The Naval Material Command recently submitted MILCON and equipment plans for POEs for ordnance.

Action Responsibility: MTMC for facilities at common-user ocean terminals; NMC for facilities at military ammunition ports at NAD Earle and NWS Concord. MTMC for MOTSU & King's Bay.

Critical Problems: There was no apparent assignment of responsibility for planning to assure adequate facilities at overseas ports to process containerized cargo during emergency operations.

(U) No. 13 - Prescribe Standards, for Packing, Packaging, and Preservation of Supplies Shipped in Surface Containers.

Status: There was no comprehensive program to achieve this milestone. Progress was dependent on development of the ability to deliver cargo from source to user. Cargo requires protective pack even if the container must be opened at some point before reaching user.

Action Responsibility: Each Service. PMCS for coordination.

Critical Problems: An issue that requires resolution and intensive management efforts. Major savings inherent in the container concept could be realized only when this management problem was resolved.

(U) No. 14 - Coordinate Movement Requirements for Pilot Container Operations.

Status: Arrangement for movement of MILVANS within the DOD Transportation System was completed in 1971. Pilot operations for the movement of MILVAN general cargo and ammunition were conducted.

Services/Agencies Involved: PMCS - USAMC - MTMC - MSC - HQD/A - HQ D/N - MACV - USAREUR.

Action Responsibility: Milestone Completed.

Critical Problems: None

(U) No. 15 - Develop, Test, and Obtain Approval for Procurement of Initial Increment of MHE for Cargo Handling.

Status: Equipment under consideration within the PMCS Charter were the 4,000 lb. capacity conventional forklift, the 4,000 lb. RT forklift, and the mobile loading ramp.

Action Responsibility: Army

Critical Problems: None

(U) No. 16 - Develop, Test, and Obtain Approval for Procurement of Initial Increment of the MHE for Container Handling.

Status: Equipment under consideration were the 10,000/15,000 lb. RT forklift trucks; 15,000 lb. capacity conventional forklift trucks;

50,000 lb. capacity RT front loader container handlers; 50,000 lb. capacity conventional front loader container handlers; 50,000 and 67,200 lb. side loader container handlers; 35, 140 & 250 ton capacity cranes; 36,000 and 50,000 lb. capacity aircraft loaders; and adapters for the 463L container pallet.

Action Responsibility: Army and Air Force

Critical Problems: Resolution of requirements in the 10-15K forklift area could produce large savings through Service-wide standardization. A larger problem was the different MHE requirements generated by different cargo unitization, philosophy and dimensional incompatibilities between ISO containers and 463L pallets.

(U) No. 17 - Development of Concepts, Methods and Equipment for Over-the-Shore Discharge of Containership (OSDOC) in Logistics-Over-the Shore (LOTS) Operations.

Status: OSDOC joint exercises were conducted in 1970 and 1972. These exercises demonstrated the feasibility of moving cargo containers over unimproved beaches and provided the basis for formulation of doctrine and equipment development programs.

Action Responsibility: There was no approved concept, and equipment requirements were still under development. These were to be thoroughly tested in OSDOC exercises. Joint assignment of action responsibility to Army and Navy assumes continuing management problems. Roles and missions in the over-the-shore area need clarification.

(U) No. 18 - Develop, Test, Obtain Approval, and Procure Initial Increment of Military-Owned Containers of Various Types Required.

Status: General Purpose Containers - The availability of commercial container assets to lift projected contingency requirements was established by the MSC sponsored Container Requirements and Availability Study (CRAS). The conclusions contained in CRAS were approved by ASD (I&L) memorandum, dated 21 May 1973.

Action Responsibility: USAMC

Critical Problems: Need to develop small/intermediate size cargo containers for forward distribution beyond which the larger 20/40 foot containers cannot be carried. Such a container(s) must be of light construction and highly suitable for air lift, but still sufficiently durable to withstand Army-in-the-field operational environments.

(U) No. 19 - Develop, Test, Obtain Approval, and Procure Initial Increment of Container Transportation.

Status: USAMC (TACOM) has been tasked to develop and/or procure vehicles to transport cargo containers within terminals and in the line-haul mode. These vehicles were: semi-trailer, tactical, dual purpose breakbulk/container transporter, 22.5 ton, XM871. Two semi-trailers were being designed at USATACOM at estimated development costs of \$1.0 million; semi-trailer, platform, breakbulk/container transporter, 34-ton, XM872 - Multi-year procurement of a commercially designed trailer was planned for FY 1975, 1976, 1977, and 1977 (2,529), with a second multi-year procurement for FY 1979 and 1980 (1681) for a total quantity of 4,220 at an estimated procurement cost of \$42.2 million; truck tractor, yard type - 28 commercially designed tractors are tentatively planned for procurement in FY 1976. ROC approved by DA Staff February 1975. Procurement action currently suspended, pending resolution of the 34/45 ton semi-trailer payload requirement at an estimated procurement cost of \$0.8 million; semi-trailer, tactical special purpose selfload/unload, break-bulk/container transporter, 22.5 ton - A DPROC was being prepared by TRADOC; Intermediate, Rough Terrain, container handler/transporter - A DPROC was being prepared by USATRADOC; Truck Tractor, line-haul, 6X4, 8 ton - plan called for procurement of 2164 modified commercial design tractors in FY 1977 and 2163 tractors in FY 1978 for a total of 4327 units. Preparation of DPROC was being deferred pending resolution of the 30/45 ton semi-trailer payload requirement. The estimated cost was \$138.5 million.

(U) No. 20 - Conduct Ammunition and General Cargo Container Pilot Operations.

Status: Pilot MILVAN operations for the movement of general cargo between CONUS west coast and SEA were successfully completed. Results: DOD Instruction 4500.37 of 5 October 1972 incorporated policy for selective use of MILVANS; Containerized Ammunition Distribution System (CADS) was successfully completed using MILVANS. An internal restraint system was developed, tested and approved by the US Coast Guard (USCG) for ocean shipment, by the Association of American Railroads (AAR) for container-on-flat car (COFC), and with the military chassis for trailer-on-flat car (TOFC) movement in CONUS; a critical outgrowth of CADS tests was the need to develop a means by which commercial containers could be used for movement of ammunition in the event of a contingency; considerable efforts were exerted by the PMCS the past two years to devise hardware and concepts which would permit practical, safe, and economically feasible carriage of ammunition in commercial containers. Although the completion of this major task would extend beyond the 30 June 1975 PMCS termination date, the numerous concepts and prototype hardware under consideration should result

in the formulation of a suitable method for use of commercial containers in the carriage of ammunition.

Action Responsibility: Although development of improved methods for shipment and handling ammunition would continue to be the responsibility of each of the military services, Army (USAMC) has been assigned responsibility for completing the PMCS task of developing methods for efficient use of commercial containers for movement of ammunition.

Critical Problems: Selection/Acquisition of suitable commercial containers to meet ammunition shipping requirements in a contingency; accountability/availability of restraint kit; arrangements with commercial owners for container modifications; initiation of routine shipment to the Pacific and areas other than EUCOM, to provide training and orientation for large-scale munitions containerization requirements in contingencies.

(U) No. 21 - Publish Joint Operating Procedures (JOPs) for Surface Containers Covering Financial Plan; Logistics Support, Research, Development and Engineering; Configuration Management; Procurement; Test and Development; and Reporting Requirements.

Purpose: To improve the readiness and logistics posture of the Military Services by providing standard methods for management of surface containers and container handling equipment within all elements of the DOD.

Status: Draft procedures were prepared in 1973 for the financial plan; research, development and engineering; and procurement. Reaction of the Services during the staffing action was such that efforts toward this milestone were discontinued on the premise that the development of JOPs was a normal ongoing function of the Services and the TOAs.

(U) No. 22 - Transition

Critical Problems: A need exists for ASD(I&L) to publish and appropriate DOD Instruction promulgating the concepts and objectives for the development of a container-supported cargo distribution system.²⁰

²⁰ ASD(I&L) Memorandum, dtd 11 Apr 55, Subject: Orderly Phase-Out of Project Manager for Container, assigned responsibilities for functions.

Training Devices (TRADE)

Introduction and Overview

(U) PM TRADE was organized, effective 15 April 1974, under Charter signed by the Secretary of the Army on 23 December 1974, and General Order Number 140, dated 19 July 1974. An initial strength of 13 civilians and 9 military were authorized. The PM TRADE Table of Distribution was changed to reflect an increase to 17 civilians and 12 military by the close of FY 1975.²¹

(U) The initial staffing of PM TRADE took place on 1 April 1974 when LTC Fred O. Bartlett, Jr. was assigned as Acting Project Manager and, along with a skeleton staff, was physically located in temporary facilities at Fort Benning, Georgia. During this period of initial activity, data was collected on all non-systems training device projects within the Army Materiel Command, the work load identified, coordination procedures established within AMC to include major commodity commands, along with research agencies, user elements, subordinate units (i.e., the Army Training Device Agency in Orlando, Florida), and appropriate contractors. Orientation was also accomplished for the steady stream of newly assigned military personnel. Colonel Leland A. Wilson assumed the position of Project Manager for Training Devices (PM TRADE) on 31 August 1974.

(U) By September of 1974 most of the personnel selected for permanent assignment to PM TRADE had arrived on board, and the Project Manager, Colonel Leland A. Wilson, took control of the project. By the end of October 1974, the organization had moved to its permanent facilities in Building 75D at Fort Benning, and the full scale effort initiated to bring all active training device projects under the managerial practices recommended for implementation by guidance from higher authority and appropriate regulations. At the same time the specific areas of concern for PM TRADE, ATDA, and TRADOC-TRADER were committed to documentation after thorough coordination had been accomplished.

(U) During the period January 1975 through June 1975, emphasis was placed on refining the management information systems necessary to the proper control and coordination of on-going projects, as well as the integration of all phases of development (i.e., Research, Logistics, Test, etc.), to assure that adequate attention was focused on all aspects of the total developmental effort. At the same time, a continuous planning cycle was instituted to provide a fully developed

²¹Letter, AMCPT-S to PM Training Devices, Ft Benning, GA, Subject: AMC Approval of Establishment of OPM TRADE, 5 June 1974; USAMC General Orders No. 140, 19 Jul 74; Charter, PM (TRADE), DA, Harold H. Calloway, 23 Dec 74.

five year plan which brings future training device requirements, validated life cycle cost estimates for their development, and funding requirement versus funding availability, together into one coherent package. Through continuous coordinated up-dates this package permits centralized direction of all current and future effort so that the best possible mix of development dollar investment is obtainable within the total device program, and serves as a basis of entry into the reporting and requesting cycles which drive the materiel acquisition system. In summary, PM TRADE's efforts since inception have been geared toward assuming overall management of all non-systems training devices, providing direct management of in-house (i.e., PM TRADE office) projects, monitorship of projects delegated to ATDA or other commodity commands, and assistance rendered to other Project Managers in support of training devices for their systems.

Management Concept for PM TRADE

(U) In structuring the office of Project Manager for Training Devices, the classical Project Manager approach has been followed where possible. However, this approach has been modified because of two factors not normally encountered in the classical project.

(U) The first of these deviations from the classical approach was that TRADE was not focused on a single materiel system but rather it manages a multiplicity of systems which are in the various stages of the materiel life cycle. For instance, when the typical PM office is formed with the project in the concept formulation stage, one would expect to find all of the usual life cycle management disciplines and functions represented in the PM office; but the mix would tend to lean heavier in the direction of a large System Engineering Division and probably more lightly represented would be a division like the Procurement and Production Division. As the system progresses through the life cycle, one would expect to find the mix of the disciplines and functions changing according to the stage of the life cycle of the system. In the case of TRADE, the organization was designed with a stable balanced mix of cycle management disciplines and functions.

(U) The second unusual factor was the PM TRADE/ATDA relationship. ATDA is a Class II activity which reports directly to and is controlled by the PM TRADE. To prevent a tendency toward layering and duplication, ATDA was viewed as an extension of the PM office. Hence, ATDA would perform many of the functions of the Project Manager. From another aspect, ATDA could be viewed as a commodity command for training devices. It was anticipated that 60% to 80% of training devices under the purview of PM TRADE would be acquired through ATDA. And for non-type classified devices, life cycle support would be managed by ATDA. However, depending upon where the expertise resided within AMC for

specific types of technology involved in training devices, the PM TRADE would task AMC commodity commands and laboratories to develop and procure training devices. In this latter case, ATDA would not be involved in any of the life cycle of the particular device except on a consultative basis with PM TRADE, as required.

(U) Because of the multiplicity of projects, there was established, both within PM TRADE and ATDA, Project Control elements. These are manned by individual project officers, each of whom was assigned one or more projects to manage throughout its life cycle. These project officers may be considered as mini-project managers for their systems. Since they are not self-sufficient in all the disciplines and functions required, they must draw on functional elements directly in the name of the PM or, as the case may be, the Commander, ATDA, to furnish products required in the managing of a particular device. In turn, the functional elements at PM TRADE, in the name of the PM, establish and supervise functional policy as implemented by the project officers and by ATDA. The functional offices assure a balanced systems approach which stresses that all disciplines are considered in the development and procurement of a particular system. This management environment leads to occasional but inevitable conflicts which are referred to the PM for decision.

(U) A keystone in the philosophy of the relationships between TRADE and ATDA is that initial contact with the user and other outside agencies is to be conducted by PM TRADE or through PM TRADE by ATDA, except where specific policies authorize direct coordination. In the requirements generation or concept formulation stage of an individual training device project, initial contact is between PM TRADE and TRADOC TRADER. During the generation of a requirements document (LOA, LR, TDR) TRADOC TRADER coordinates the draft with PM TRADE and requests PM TRADE to provide the technical, cost and lead time assessment of the proposed device. At this stage, the PM appoints a Project Officer to initiate the Concept Formulation Package and Outline Development Plan and manage the project. The Systems Engineer provides technical assessment of the proposed device and Programs Management assists in the cost assessment of the proposed device. As required, the System Engineer also tasks ATDA for AMC input to the requirements document, the Project Officer monitors the progress of the document through the approval cycle and provides assistance to TRADER as required. Upon approval of the requirement, completion of the Outline Development Plan, the Project Officer recommends the strategy for development and procurement for the device. If it is decided that ATDA is to develop and procure the device, the project is assigned to ATDA who, in turn, appoints a project control officer. ATDA then uses the PM TRADE prepared Development Plan as a guide to manage intensively the development, procurement, and fielding of the system from then on.

This includes responsibility for maintenance of the Development Plan as the project progresses through the life cycle. In the case of an ATDA-managed project, the appointment of the PM TRADE project officer would be terminated and the project would be monitored by the PM through the reporting and controlling system managed by the Programs Management element. If the procurement strategy is to task another AMC commodity command for development and procurement, or part of the life cycle management of the device, the PM TRADE project officer will retain his appointment and manage the project throughout the association with another commodity command and with the assistance of the functional offices in PM TRADE. In these cases, ATDA would not be involved in the projects. All funding and allocation of resources is controlled by PM TRADE. As the PM tasks an agency to perform development and procurement, monies are provided along with the tasking.

(U) While both the PM office and ATDA require all the functional disciplines normally found in a Project Manager's office, the functional missions are specified to eliminate duplication of effort. Because ATDA manages the bulk of the development and procurement actions and provides the life cycle support functions for non-type classified training devices, it has been staffed heavier in the areas of procurement and production and logistics management than has the PM TRADE office. Because PM TRADE is preeminent in the early life cycle of a system and controls the tasking and the resources and must monitor all projects, PM TRADE has been staffed heavier in the program management function and the system engineering function than in the other functions.

Mission and Organization

(U) The PM TRADE is responsible for planning, directing, and controlling the life cycle management of non-system and non-type classified system training devices and providing support to the managers of type classified system training devices as required. The Project Manager for TRADE exercises direct control over the US Army Training Device Agency (ATDA), Orlando, Florida, and reports directly to, and has full line authority for, the Commanding General, US Army Materiel Command. The organization and functions chart for PM TRADE is at Figure 24.

(U) The Project Manager also has responsibility for the definition, development, product assurance, initial procurement, production, distribution, and integrated logistic support to accomplish project objectives. His authority extends to achieving the technical performance objectives of the projects and assuring training device effectiveness, as stated in requirements documents, on schedule and at the lowest practicable cost. He assures that major decisions are supported by decision risk analysis and has full use of AMC corporate and commodity command laboratories and has complete freedom of selection of sources for technical assistance within the bounds of DA and DOD regulations.

ORGANIZATION AND FUNCTIONS CHART (as reflected in TDA M1W317AA)

PROJECT MANAGER, TRADE	
Project Manager	4300-06
Deputy Project Manager	GS-855-15
Secretary (Steno)	GS-318-07
Admin Assistant	GS-301-05
Clerk/Typist	GS-322-04

PROJECTS CONTROL	
Lead R&D Coordinator	2167-05
R&D Coordinator	2167-05
R&D Coordinator	2167-05
R&D Coordinator	2167-04
R&D Coordinator	2167-04
R&D Coordinator	2167-04
R&D Coordinator	2167-04
R&D Coordinator	2167-04
Operations Sergeant	11F40-E6
Clerk/Steno	GS-312-04

SYSTEM ENGINEERING	
System Engineer	GS-801-14
Operation Research Analyst	GS-1515-13
Electronic Engineer	7601-04
General Engineer	GS-801-13
Clerk/Steno	GS-312-04

PROGRAMS MANAGEMENT	
Program Analyst	GS-345-14
Program Analyst	GS-345-13
Program Officer	6302-04
Program Analyst	GS-345-12
Program Assistant	GS-301-06

PROCUREMENT & PRODUCTION	
Procurement & Production Officer	GS-1101-14

QUALITY ASSURANCE	
Quality Assurance Specialist	GS-801-13

CONFIGURATION MANAGEMENT	
Configuration Management Specialist	GS-301-13

LOGISTICS MANAGEMENT	
Logistics Specialist	GS-346-12

RANK	COL	LTC	MAJ	E6	Mil Tot	15	14	13	12	07	06	05	04	Civ Tot	Aggregate Tot
AUTH	1	3	7	1	12	1	3	5	2	1	1	1	3	17	29

Chart 9

Projects

(U) Command and Control Training Vehicle (CCTV), TDR-071. The CCTV is a small, low center of gravity, low ground pressure, all-terrain vehicle capable of transporting a driver and two passengers. It will be used to permit leader command and control training by simulation of tracked combat vehicles, where maneuver damage, space limitations and fuel conservation precludes training with actual combat vehicles.

(U) Combined Arms Tactical Training Simulator (CATTS), TDR-042. The CATTS is a computer supported training simulator designed to war game combat operations. The CATTS is designed to assist in training battalion commanders and their immediate staffs and is currently installed and undergoing evaluation at Fort Benning, Georgia.

(U) MILES (Multiple Integrated Laser Engagement System). A combination of gallium arsenide low power eyesafe lasers used to simulate weapons' fire and provide realism in field training exercises. The laser transmitters are mounted on the primary weapons and detectors are mounted on men and tanks. When a hit is scored a visual and audible signal is triggered on the target signifying a kill. Distinctive pulse coding of the laser transmitters will create a hierarchy of weapons effects thus preventing unrealistic kills (rifle killing a tank). MILES includes the following devices: M16A1 Man-vs-Man/Target Engagement Simulator (TES) (TDR-074) (Device 17A30); Vehicle Engagement Simulator (VES) (TDR-076) - Tank/Antitank weapons firing (Device 17A29); M60 Machinegun Laser (MGL) (TDR-080) (Device 17A33).

(U) Cal .22 Rimfire Adapter (RFA) for M16A1 Rifle, TDR-095. PM TRADE managing, ARMCOM tasked for development. Device allows Cal .22 LR ammunition to be fired through the M16A1 Rifle thus saving 6¢/rd during basic rifle marksmanship training.

(U) Miniature Moving Target for use with the 14.5mm Field Artillery Trainer, M31, TDR-0101. Remote control vehicle for use on the reduced scale range at Ft Sill in conjunction with the M31 Subcaliber Field Artillery Trainer. Its purpose is to provide a moving target to train forward observers in the technique of delivering indirect fires on a moving target. Six such devices are to be procured for use at the USAFAS.

(U) Blank Firing Attachment (BFA) for Machinegun M2, Cal .50. PM TRADE will manage; will task ARMCOM for development. Device will permit blank firing with the M2 MG. Development supports recent combat doctrine of a dedicated gunner for the M113 APC-mounted MG.

(U) Observed Fire Trainer (OFT), TDR-077, Device 3E42. A system using a projected terrain scene and targets to train forward observers in the techniques of artillery fire adjustment under varying conditions. Computer generated artillery bursts are projected on the screen according to the initial data and subsequent corrections of the trainee.

(U) Mine-Countermining Casualty Producing Simulator (MICAPS), TDR-0102. PM TRADE directly managing - ECOM tasked to provide Advanced Development prototypes. Small magnetic field transmitter devices will provide a means of simulating casualties among personnel/vehicles who come within the casualty radius of emplaced plastic training mines (M14, M15, M16, M19 and M21). Though devices can be used in current mine warfare training, ultimate goal is to allow incorporation of mine warfare into MILES.

(U) Artillery Direct Fire Trainer (ADFT), Addendum to TDR-017, Device A3E43. Development through Frankford Arsenal. This is an in-house (Frankford Arsenal) design and fabrication of four universal adapter and servo mechanism for remote control of laser beam off-set device for the Laser Tank Gunnery (Device 3A110), to serve in the role of training howitzer crews in direct fire gunnery procedures.

(U) Blank Firing Attachment (BFA) for Machinegun M85, Cal .50. PM TRADE will manage; will task ARMCOM for development. Device will permit blank firing with M85 MG. Device provides realistic signature effects.

(U) .50 Cal Tank and AR/AAV Trainer (90mm/105mm SCTD), TDR-0104. PM TRADE managing; HDL tasked for development. Subcaliber device will allow cost effective tank and AR/AAV live-fire training consisting of a Cal .50 barrel, MBC secured within a dummy main gun round (90mm/105mm) and firing a Cal .50 M48A1, spotter-tracer round.

(U) In-bore Adapters for the M31 Subcaliber Field Artillery Trainer, Devices 17E7, 17E8, 17E9 and 17E10 (No TDR). Adapters which permit the M31 Subcaliber Field Artillery Trainer to be mounted in-bore within the M101, M102, M114, and M109/M110 howitzers enhances the capability of that device so that not only forward observers are trainer through its use, but also FDC and gun-crew personnel as well.

(U) Remoted Target System (RETS). PM TRADE managing; will task ARMCOM for development. Standard system will provide portable and static targets necessary for infantry and armor marksmanship/gunnery training. RETS will sense ball/inert ammunition and, with attachment, laser energy making RETS compatible with MAGLAD.

(U) Marksmanship and Gunnery Laser Devices (MAGLAD). PM TRADE tasked USATDA for development. Devices will permit target engagement

with various weapons, e.g., M16, M60 MG, Cal .50 Machineguns and tank guns, without using live ammunition or extensive range facilities. MAGLAD will be compatible with RETS.

(U) Diagnostic Rifle Marksmanship Simulator (DRIMS). PM TRADE managing; will task USATDA for development. Device permits indoor, small area, realistic marksmanship training with M16 rifle without the use of ammunition.

(U) Weapons Effect Signature Simulator (WESS). WESS is envisioned as a generic approach to realistically simulate the firing of various American and foreign weapon systems. Flash and smoke have been identified as mandatory effects. Noise will also be evaluated with early prototypes.

(U) REALTRAIN II & III. These systems are designed to use optical devices; telescopes or plastic sighting plates mounted on or in weapons from the M72 LAW to the tank main gun of the two opposing small-unit forces. These devices are aligned with the weapons' sights, allowing controllers to see the same sight picture as gunners, and permitting them to verify a gunner's aim during target engagements. Gunners "shoot" at targets by announcing the identification numbers displayed on vehicles while the target is aligned in their sights. The controllers verify aim and award "hits" or "misses". This data is transmitted by the controller via the controller command package. The soldiers plainly see that they are learning tactical skills, there are built-in elements of competition and credibility; one side wins and the other side loses. The winning or losing is based upon the skill of the participating soldier. REALTRAIN II applies to armor systems 90mm and 105mm. REALTRAIN III pertains to anti-armor systems, i.e., TOW, 106mm recoilless rifle M40AZ, 90mm recoilless rifle M67 and the LAW, M72.

(U) Vulcan Trainer System (VTS) (Formerly Mini-VADS Subcaliber Device). A 7.62mm (M-134) Mini-gun is coaxially mounted to a Vulcan Air Defense System (VADS) 20mm gun and fires at a radio-controlled model airplane. The model airplane is flown at closer-in ranges (250-350 m), with a target speed of 100 knots, closely approximating the VADS tracking rates of a drone target flying at 350-400 knots at 800-1000 meters. The model airplane is monitored by a TVT, through the VADS Lead Computing Sight and records on video tape the gunner's actions.

(U) Tank Target Study. The object of the program is to identify and analyze concepts for target systems to satisfy tank range firing training requirements.

(U) Helicopter RPV Study. The object of this program is to determine a means through which the flying of helicopters can be realistically simulated by using a highly responsive Remotely Piloted Vehicle (RPV) (in this case, a helicopter) in conjunction with a high resolution TV probe aboard the RPV.

(U) Synthetic Training Systems (SFTS). SFTS is a series of devices used to simulate Army aircraft and flight environments. These are high fidelity flight simulators with computerized, programmed instruction and six degrees of freedom motion platforms. The need for the system is established in Training Device Requirement 027. The system will consist of the following devices: 2B24, SFTS Field Unit Subsystem, a UH-1H Instrument Flight Trainer system to teach basic instruments, advanced instruments, emergency conditions, combat readiness proficiency, and transition training in the cockpit modular selected. The system consists of a console and four UH-1 cockpit modules and can be programmed through the digital computer to perform many of the routine operations traditionally assigned to the instructors or pilots during aircraft instrument flight operation; 2B31, CH-47C Helicopter Operational Flight Trainer, with visual system provides transition training and proficiency flying in the CH-47C helicopter for rotary wing aviators to perform normal and emergency procedures, navigational and instrument flight procedures, and visual flight maneuvers; 2B33, AH-1Q (Cobra) Operational Flight Trainer/Weapons System Simulator provides effective training in flight and instrument procedures, weapons systems and ordnance delivery. Simulated performance is reflected by appropriate response of instruments and controls responding to trainee and instructor inputs. The device may be used for either pilot or pilot/gunner trainer in an integrated mode for simultaneous pilot and gunner training. It consists of visual simulation in addition to the instrument simulation capability; 2B38, UTTAS, an advanced utility flight simulator to accommodate both UTTAS and UH-1H; provides transition training and proficiency flying in the cockpit selected for rotary wing aviators to perform normal and emergency procedures, navigational and instrument flight procedures and visual flight maneuvers.

(U) Mine Simulation Study. The study objective is to identify and analyze appropriate simulation concepts and technical approaches which might lead to the development of hardware that will provide more realistic and effective mine warfare training.

CHAPTER VII

SUPPLY MANAGEMENT ACTIVITIES

Directorate of Supply Reorganization

(U) Effective 1 February 1975, the Allocations and Capabilities Branch (SU-SA) of the Major Items Management Division and the Logistics Data Management Division (SU-L) were abolished. Functions transferred to the Major Items Management Division from the Logistics Data Management Division included: petroleum distribution systems, facilities and equipment; development and improvement of petroleum products coordinated with Directorate for Research Development and Engineering; Army Petroleum Quality Surveillance Program; Utilization, Application and Design of Petroleum Laboratories; Petroleum Packaging and Palletization Tech Advisory Visit Program; and development and implementation of Interservice and International Petroleum Standardization Actions.

(U) Functions transferred from the Allocation and Capabilities Branch (SU-SA) to the Distribution Management Branch (SU-SC) included: Major Items Distribution Plan; the Area Standardization Program; the Five-Year Forecast for Army Reserve Components; and the Allocation System for Army Reserve Components.

(U) The following functions were transferred from the Allocation and Capabilities Branch, Major Items Management Division to the Inventory and Cataloging Division; Preparation and Maintenance of Chapter 9, AR 708-1, Army Adopted, other selected items and line item numbering system; and Preparation and Maintenance of SB 700-20, Army Adopted and other items of Materiel selected for authorization.

(U) The following functions were transferred from the Allocation and Capabilities Branch, Major Items Management Division to the Stock Management Policy Division: CONUS Depot Asset Reporting System; Asset Data Evaluation Program; Asset, Requirements, Depot Maintenance and Acquisition System; Hidden Asset Computation System; DODAAC to UIC Cross reference file; Worldwide Reporting of Equipment Asset Data; Worldwide Asset Position (WWAP); Continuing Balance System (CBS); and preparation and maintenance of AMCR 700-58 and Chapter 8, AR 710-3.

Management Highlights

General

(U) A special office designated as Task Force 16-76 was established within the Directorate to function as the AMC focal point for all actions pertaining to Project 16-76 which had an objective of organizing sixteen (16) Army Divisions in FY 1976.

(U) Within the area of responsibilities concerning physical inventory accounting: the first standard course in inventory management was completed and taught; the "perpetual" location survey of depots was initiated; the Order of Merit List (OML) for determining items to be inventoried based on frequency of demand was initiated; and the first and second audit match for comparing NICP accountable records and depot custodial records was completed.

(U) A DOD-wide Packaging Management System to permit the computerization of packaging data and achieve a greater degree of standardization, was agreed to by the DOD working group on 4-5 June 1975. This effort combines MIL STD's 647/726/794 and 834, all of which are packaging standards. Additionally, improvements in the Logistics System have resulted in a significant reduction in the requirements for military levels of protection. AMC prepared and coordinated a revised AR 700-15 and AMCR 746-2, recognizing commercial packaging as a degree of protection.

(U) During FY 1975, in developing the Automated System for Planning, Evaluating and Controlling Transportation (ASPECT) (a major subsystem designed to standardize, automate and improve transportation functions at the Army NCIPs) the printing of freight classification and MILSTAMP data on the Procurement Work Directive (PWD) and the development of file data for freight classification and MILSTAMP data under the Defense Integrated Data System (DIDS), was implemented.

(U) The continued high rate of inflation adversely affected the buying power of both the commodity commands and consumers. Additional funding from OSD/OMB was received several times to offset these inflated costs. Also consumer demands were noticeably reduced because the buying power was eroded by high inflation.

(U) The Director of Supply was assigned the responsibility for the overall logistics readiness posture of US Army units worldwide. Therefore, in keeping with the primary objective of the Department of the Army to maintain a high state of logistics readiness of US Army units, an extensive and aggressive intensive management program was conducted throughout AMC supply activities to assure timely logistic support of both major items and repair parts.

(U) Implementation of procedures to accelerate the redistribution/disposal of wheeled vehicles under the Wheels Study program was delayed for about six (6) months as a result of an OSD message in November affecting MAP deliveries supplied under MIMEX procedures. The suspension was lifted in May 1975.

(U) The phase-out of HQ USARPAC, 31 Dec 1974, caused some changes in HQ AMC functional applications. AMC assumed ammunition logistics

support functions in the Pacific area. These functions involve centralized management and control of ammunition assets geographically located in the WESTPAC area and include requisitioning, quality assurance, disposal maintenance, safety, and mobilization planning responsibilities.

(U) The long range Main Battle Tank Distribution Plan was published 9 June 1975 by TACOM. This plan shows current and forecast changes in distribution of tanks in the FY 1975 - FY 1980 time frame. Of major significance was the increased distribution of the 105mm gun diesel-powered tanks, with a corresponding phaseout of the 90mm gun gasoline-powered tanks.

(U) All phases of the AMC Logistics Program Hardcore Automated (ALPHA) standard mechanized system which involves the basic logistics functions of Procurement and Production, Supply Management, Stock Control, Cataloging, Provisioning and Financial Management have been implemented at MICOM, AVSCOM and TROSCOM. Phases C and D remaining, are scheduled for implementation at ECOM by September 1975, at ARMCOM by December 1975, and at TACOM by June 1976.

(U) Implementation of the new Requirements and Determination Execution System was commenced in November 1974 at AVSCOM, MICOM and TROSCOM. Remaining commands will implement this new system upon their conversion to the Commodity Command Standard System (CCSS). This new system enables AMC Commodity Commands to plan, program, budget and execute programs from the same system performing requirements determinations and supply actions necessary to keep secondary items in a balanced supply position.

(U) The interservice program to "Eliminate Duplicate Wholesale Inventory Management of Multi-Used Non-consumable Items" has been inaugurated. This is in line with the DOD "one time/one manager" concept. The Directorate for Supply provides the DA representation on the Joint Policy Coordinating Group for Defense Integrated Materiel Management (JPCC/DIMM and the Nonconsumable Items Subgroup (NIS)).

(U) In August of 1974, the Army Chief of Staff initiated action to comply with the requirements of the NUNN Amendment to the United States Appropriations Act of 1975, and a Secretary of Defense Program Decision Memorandum addressing the conversion of combat support forces of the US Army in Europe (USAREUR) to increased levels of combat force. Department of Army was concurrently directed to examine the feasibility of attaining a 16-Division Force structure by FY 1978.

This effort was designated as Project 16-78. Based on an early analysis of available manpower, Project 16-76 was established to accelerate the build-up of a 16-Division Force prior to the end of FY 1976.

(U) Project 16-76 was implemented in the Army Materiel Command, with the Directorate for Supply to function as the AMC focal point (TASK FORCE 16-76), for all actions pertaining to Project 16-76. TASK FORCE 16-76 developed capability studies for the Department of the Army, identifying materiel needs, determining potential shortages, exploring alternate supply sources, and examining possible substitute equipment where prime item was unavailable. Among the many actions taken thus far, TASK FORCE 16-76 has provided TO&E requirements to the NICPs, initiated a worldwide war reserve asset report, and intensively managed items of equipment on a line-by-line basis to insure that equipment is made available to activating units of the 16-Division Force in required time frames.

Plans and Programs

(U) The Director of Supply is responsible for four Program Elements (PE) of the Operations and Maintenance, Army (OMA) Budget. These elements are 393401 (Communications Security) (COMSEC), 728010 (Second Destination Transportation), 72111 (Supply Depot Operations) and 72112 (Supply Management Operations). A portion of 728012.11 (Attendant Central Supply Services) is assigned to the Resources Branch, Plans and Programs Office.

PE 393401 Communications Security (COMSEC)

(U) During FY 1975, the COMSEC Commodity Manager at Fort Huachuca, Arizona, provided for the operation of the COMSEC National Inventory Control Point, COMSEC National Maintenance Point and the Army COMSEC Central Point of Record. The COMSEC Depot Operations at Lexington Blue-Grass Army Depot, Kentucky, provided for the receipt, storage and issue of COMSEC Materiel Maintenance and modification of COMSEC equipment/components. Also includes funds for Design Control Repair Parts and reimbursement of the AIF (Army Industrial Fund). The following is a summary of the FY 1975 financing of this element:

(Dollars in Millions)

<u>FY</u>	<u>REQUIREMENT</u>	<u>FINANCED</u>	<u>UNFINANCED</u>
75	\$10.0	\$7.5	\$2.5

PE 728010 Second Destination Transportation

(U) This program provided for Second Destination Transportation of Army cargo via land, air, and sea and the over-ocean movement of

civilian employees and their dependents on posts, camps and stations. In summary, this element received the following financing for FY 75:

(Dollars in Millions)

<u>FY</u>	<u>REQUIREMENT</u>	<u>FINANCED</u>
75	\$40.9	\$40.9

(U) The FY 1975 Budget Execution Review (BER) for Program Element 728010 (Second Destination Transportation) was estimated at \$36.6 million, to move 635,009 short tons of supplies and equipment. Due to the movement of additional Commercial Line Haul Freight in particular, the shipment of tanks to the Marine Corps and overseas resulted in an increase of \$4.2 million in FY 75. The total amount financed in FY 75 was \$40.9 million. These additional funds were provided by DA. The breakout of the original FY 75 funding requirement of \$36.6 million was as follows: \$33.2 million was required to support Commercial Line Haul Freight for the movement of 623,435 short tons of materiel; \$870,000 was required for Commercial Air Transportation for the movement of 2,744 short tons; \$768,000 was required for Thru Bill of Lading for the movement of 8,830 short tons; \$1.5 million was required in the Contractual, Rental and Lease area of which \$1.2 million is for the Flyaway Program at AVSCOM and \$320,000 for the Marine Maintenance Program at TROSCOM; and \$270,000 was required for the support of the Joint Container Control Office at Tobyhanna Army Depot.

PE 728012.11 Attendant Central Supply Services

(U) This program provided for central supply logistic activities not directly related to a specific functional budget activity account. It included centralized packaging offices and other functional performance that is not directly identified to a single budget activity account. This office managed that portion of Program Element that pertains to supply. In summary, this element received the following financing for FY 1975:

(Dollars in Millions)

<u>FY</u>	<u>REQUIREMENT</u>	<u>FINANCED</u>
75	\$8.8	\$8.8

The FY 1975 budget for PE 728012.11 provided for salaries, benefits, TDY, equipment rentals and supplies for those activities pertaining to central supply services. No additional funds were requested or provided this element since completion of the FY 75 Budget Execution Review (BER).

PE 721111 Supply Depot Operations

(U) This program provided for internal operations of Army Depots and Arsenals. It included receipt, storage, issue and shipment of assigned stocks and all operations incident thereto. It included stock control activities when performed in depots and administrative portions of traffic managements performed within depots. In summary, this element received the following financing for FY 1975:

(Dollars in Millions)

<u>FY</u>	<u>REQUIREMENT</u>	<u>FINANCED</u>
75	\$210.0	\$210.0

(U) The FY 1975 Budget Execution Review (BER) for Program Element 721111 was estimated at \$203.2 million of which \$190.4 million was financed and \$12.8 million was unfinanced. The \$203.2 million and 10,236 man-years were required to support the forecast workload of 2,093,000 short tons and 6,210,000 line items received and shipped. The contemporary funding guidance provided \$190.4 million for 9,687 man-years, leaving an unfinanced requirement of \$12.8 million and 549 man-years. However, additional requirements in particular funding for conventional ammo renovation, conversion and modification, required additional funding in FY 1975 increasing the total requirement to \$210.0 million. The additional funding was provided by DA.

(U) Workload projections were based upon FY 1974 and 1st Quarter FY 1975 actual trends. A total of 2,148,000 short tons and 6,209,000 line items were received and shipped during FY 1974. Although Project 9DD workload had nearly terminated, supply depot operations workload during 1st Quarter FY 1975 continued at a level only slightly below the FY 1974 experience, when 525,000 short tons and 1,571,000 line items were received and shipped.

(U) The maintenance of conventional ammunition was transferred from P7S to P7M commencing with FY 1975. \$3,336,000 accompanied this transfer. Requirements in this area increased following the transfer. A total of \$7,216,000 and 405 man-years were now needed for this function, leaving an unfinanced requirement of \$3,880,000 and 201 man-years.

(U) An \$8.2 million FY 1975 unprogrammed requirement was submitted to DA as unfinanced in the FY 1976 Command Budget Estimate (CBE). This requirement was based on additional workload forecast for the depots as a result of an increased PEMA ammunition buy and an accelerated maintenance program requiring more spare parts. DA recognized this requirement and the money was included by MIDA in

developing the depots PE 721111 FY 1975 program. When originally computed, this money would have supported about 450 spaces. COA has notified AMC Comptroller that the \$8.2 million was withdrawn; and that this requirement was being reviewed along with the overall PE 721111 workload. The thinking was that perhaps some slippages had occurred in the forecast workload.

(U) DA provided \$497,600 to AMC to implement the Weapons Management Improvement Program (WMIP) in FY 1975. \$198,000 went to ARMCOM to establish a central registry. The approximate \$300,000 remaining was considered to be a part of the \$6.0 million given to MIDA in February 1975 for this purpose.

(U) There were several occasions when depots shifted a portion of their P7M workforce to Supply Depot operations work when the scheduled maintenance workload had not materialized. In most instances, the P7M employee possessed a higher skill level than supply personnel and therefore was paid a higher salary. These high-priced maintenance personnel were usually used to perform lower priority supply work, which means that lower priority, unfunded work was accomplished using funds provided for higher priority work. Additional funds then had to be obtained later in the year to accomplish the previously funded higher priority work. The use of high-cost personnel to do lower priority work ultimately resulted in an abortion of the supply priority system and a misallocation of scarce resources. This type of shifting of the workforce also contributed to the chronic "bailing out" process some depots undergo each year. Depot commanders were cautioned to use extreme care and keep to an absolute minimum the shifting of P7M personnel into Supply Depot Operations - PE 721111. Such shifts were to be made only when there was assurance that the PE 721111 funded annual program could support the additional cost; and, in view of the high cost of P7M personnel, should be done only as a temporary expedient.

PE 721112 Supply Management Operations

(U) This program operated CONUS National Inventory Control Points and Army Class Manager Agencies, including inventory control, cataloging, stock control and direct support functions. In summary, this element received the following financing for FY 1975:

Dollars in Millions)

<u>FY</u>	<u>REQUIREMENT</u>	<u>FINANCED</u>
75	\$132.2	\$132.2

(U) The FY 1975 Budget Execution Review (BER) for Program Element 721112 was estimated at \$132.2 million and 6,684 man-years.

In the BER markup \$128.8 million and 6,605 man-years were financed and \$3.4 million and 79 man-years were unfinanced. Of the \$3.4 million, \$1.7 million was required for pay and related expenses of 79 man-years and \$0.4 million for essential TDY and contractual study efforts. The 79 man-years represent on-board personnel throughout the supply management functions of the NICPs, and were required to accomplish workloads involving supply control studies, processing supply actions for procurement, rebuild, disposal and distribution/redistribution, cataloging actions and inventory adjustment transactions.

(U) The workload projection for FY 1975 in this Program Element was relatively stable, based on FY 1974. The manpower projected for FY 1975 was reduced by only one percent. This did not represent a true picture of normal expected trends due to the impact of TOAMAC implementation in FY 1974. Although TOAMAC implementation was expected to save manpower, far less people transferred with their jobs than were expected, resulting in man-years far below requirements in FY 1974. The unfinanced portion was obtained from reprogramming actions from the NICPs, therefore, the unfinanced requirement of \$3.4 million and 79 man-years were funded in FY 1975 and provided the minimum essential level of effort required to accomplish the projected workload.

(U) DA initiated a \$31.8 million reduction in FY 1975 OMA funds. As a result, Program Element 721112 was directed to reduce its program by \$6.2 million in FY 1975. The decrease was effected despite objections and was considered history. The loss was absorbed in the FY 1975 Budget Execution Review (BER). There was an unfinanced requirement of \$3.4 million in the BER, but it did not address any portion of the \$6.2 million. However, by reprogramming actions within the NICPs, the unfinanced portion of \$3.4 million was financed.

Supply Effectiveness Reviews

(U) Higher echelon supply effectiveness briefings were made monthly, quarterly, and as required to the AMC Command Group, DA Deputy Chief of Staff for Logistics, DA Inspector General, Army Audit Agency, General Accounting Office, AMC Commanders' Conferences, and Management Seminars. Fact sheets and talking papers, for orientation purposes, were also prepared on Branch-related subjects.

Military Supply and Transportation Procedures (MILSTEP)

(U) In July 1974, a major revision to MILSTEP reporting procedures was made with the scope and depth of supply performance increasing significantly. Beginning in July 1974, a revised NICP

supply performance report (MILSTEP Format 2 - Diagnostic) was required which provided for additional diagnostic data to isolate and identify causes of unsatisfactory performance.

(U) Key performance indicators showing demand trends, Stock Availability and Backorder Analysis were displayed by Weapon System and identified separately the problem items related to each system. For example, the report showed Stock Availability for the Improved Hawk System and identified the NSN's which were in a backorder condition by age category and dollar value. NICP performance of Major Customers was also shown for the key indicators by fund appropriation identifying support of Army Stock Fund demands received from FORSCOM, USAREUR, IL, and other Services. The association dollar values to each of the primary areas of analysis was also indicated.

(U) In conjunction with the above, this new diagnostic report provided additional statistics for selected workload and performance indicators which in turn provided for an additional analysis capability of NICP performance. During the implementation of this report, problems identified with ADP systems input and data collection were resolved in addition to improvements to the report data base which further enhanced NICP analysis capability.

(U) As a result of directed actions, the criteria for the measurement of NICP on-time requisition processing was changed to include MRO (Materiel Release Order) Transmission Time. Under the revised criteria NICP on-time requisition processing was now being measured from the date of the receipt of a requisition at the NICP until receipt of the MRO by the depot. System changes were accomplished to reflect this measurement in the MILSTEP Format 1A report - Pipeline Performance Analysis of Lines Shipped.

(U) Between 40-45 proposed MILSTRIP (AR 725-50) changes were received for review, staffing, evaluation, and response during the past year. The changes of major consequence included: use of AUTODIN to transmit back order reconciliation in lieu of mail was implemented on 1 July 1974; use of referral orders to transmit requisition demands to CONUS posts, camps and stations, and overseas theater depot reporting assets under provisions of DODI 4140.37; and a standard DOD system for use in reporting and processing of excesses. The complete revision of AR 725-50 was published 28 June 1974 with an effective date of 1 October 1974. Change 1 to AR 725-50 was forwarded to TAG on 2 June 1975. The estimated publication date was 15 August 1975.

Logistics Performance and Measurement System (LPMES)

(U) The Management Evaluation Branch of the HQS AMC Directorate of Supply monitors AMC supply functions under the LPMES program. The objectives are to identify top DA/DOD important areas of logistic activity for logistics managers. The LPMES assigned areas for performance indicator goals, reporting, and evaluation are as follows:

A.1 - Materiel Obligations Outstanding (MOO) (i.e., back-ordered demands recorded for future issue). This area is monitored to reduce the number of MOO's either through positive supply action or through cancellation of requirements no longer needed;

A.2 - Minimize Wholesale Item Range. A system to support military operations with a minimum number of essential items;

A.3 - On Time Pipeline Performance (Highlights the number of lines of supply issued and shipped that meet UMMIPS standards for each cycle segment of the pipeline and the total logistics cycle. Separate reports are prepared for domestic and overseas shipments);

A.4 - Item Identification Improvement (A descriptive method of item identity which enables materiel managers to more efficiently perform logistic support functions (LSF)). Included are such LSF's as item entry, control, provisioning, standardization, interservicing, interchangeability, substitutability, competitive procurement, and requirements forecasting;

A.5 - Utilization of Long Supply, Excess, and Surplus Property. This area is monitored to insure maximum utilization of available long supply, excess, and surplus assets (DOD, foreign, and other Federal agencies) in satisfying valid Defense requirements;

A.6 - Stock Availability (Measures the responsiveness of the supply system to demands for stocked items which are available when requested). The rate of availability is maintained on the basis of funding and stockage levels;

(U) Quarterly LPMES progress reports for each of these areas were rendered during FY 1974. The system utilized trend charts (maintained by the AMC monitor/Comptroller), brief analyses, and limited statistical data to show current status, trends, and developing problems in a timely and effective manner. The Management Evaluation Branch acted as coordinating liaison office between the Comptroller and Divisions/Offices of the Supply Directorate. Also, quarterly reports were provided to DOD through DA on those areas for which the Director of Supply was responsible throughout FY 1975. These reports provided information on the status and progress of improvement of supply functions that were considered critical by DOD, items A.1 - A.6 above.

NICP/Depot Rankings

(U) Each quarter NICP and Depot commanders were provided a report on their relative ranking regarding supply performance compared with their sister activities. This management tool supplemented other reports and analyses used for highlighting problem areas resulting in corrective actions by the Directorate of Supply mission elements. The evolution of this system was as follows.

(U) In February 1973, the Supply Directorate instituted a system for ranking NICPs and depots on supply performance operations. The system was based on selected performance indicators which were considered equitable and representative of depot and NICP supply operations. Each indicator was weighted based on a judgment as to its relative importance. The rankings for NICPs used 23 indicators and the depot rankings used 13. Each depot or NICP was compared with its counterparts in performing against each indicator. The scores for all indicators were added to come up with a total score for each activity. Comparable activities were ranked two ways: by best to worst relative performance, and by most improvement from quarter to quarter.

(U) This ranking system permitted a composite review of NICP and depot operations which heretofore was reviewed independently in each functional area. It also generated a spirit of competition since no one liked to be ranked in the bottom position. At least partially as a result of this system, marked performance improvement trends were noted by most NICPs and depots.

(U) Then in FY 1975, the ranking system for depot supply operations was changed to make it compatible with the AMC Comptrollers Efficiency and Effective (E&E) depot ranking system. The supply performance system now ranks depots on supply effectiveness only and these scores are used in the Comptroller's E&E system.

Director of Supply Staff Reviews

(U) The Director of Supply provides to the Command Group on a monthly basis, a terse summary and analysis of the Supply mission including an analysis of program objectives, accomplishments, and on-going Supply mission activities. These monthly presentations have established a direct line of communication regarding the program. Corrective actions were taken by the Director when required, including the recommendations to the field activities. Reaction by the Command Group regarding supply performance during the reviewed month has been generally favorable. In a limited number of cases, the Command Group expressed a need for additional follow up and information.

(U) In addition to the monthly staff reviews, the Director of Supply briefs the DA Deputy Chief of Staff for Logistics, on AMC supply effectiveness. These presentations have been similar to the staff review given each quarter to the Command Group, but were tailored to the coverage required by DA. These performance reviews provided for open discussions of supply problems between AMC and DA. Similar reviews are also used to brief the DA Inspector General, the Army Audit Agency, the General Accounting Office, and the AMC Commander Conferences.

AMC On-Time Processing of IPG-1 and NORS Requisitions

(U) The Uniform Materiel Movement and Issue Priority System standards allow two days for processing IPG-1 requirements (one day at the NICP and one day at the depots, on a 24 hours per day, seven days per week basis). In FY 1975 Supply Source (i.e., combined NICP/depot) IPG-1 processing performance was 73 percent on-time, compared with a goal of 80 percent. AMC has taken and planned numerous actions to improve Supply Source processing of IPG-1 and NORS requirements.

(U) For example, commodity commands and depots are to be required to run more requisition processing computer cycles on a regularly scheduled basis. This will not only speed up requisition processing but, at the NICP level, will allow for same-day re-entry of IPG-1/NORS requisitions that have been taken off-line for management review. Also, guidance has been provided in the form of a Synchronization Schedule to insure coordinated procedures for transmission of Materiel Release Orders (MRO's) from the commodity commands to the depots.

(U) Commodity commands are continually being evaluated on the percentage of requisitions received that are processed off-line (i.e., rejected for management review). This is a particularly critical area, because IPG-1/NORS requisitions manually reviewed must be reentered into the computer on the same day, or they are counted as late. The commodity commands need to reduce such requisitions. A second computer cycle should help this situation; however, off-line processing must also be minimized. It is expected that the above actions will improve IPG-1 and NORS Supply Source processing performance, and ultimately enable us to achieve our 80 percent goal. Yet, there are numerous constraints that restrain achievement of a level of performance very much beyond 80 percent on-time.

(U) First, it is believed that the two-day time frame and 24-hours per day, seven days per week emphasis on processing IPG-1/NORS requirements through the NICP and depot is unrealistic. It is a wartime standard. Although the NICP's/depots are working to meet

a wartime standard, they are being funded and staffed at peacetime levels. This gap can theoretically be narrowed in one of two ways: relax the standards; this method has been tried repeatedly and has failed, or increase funding and staffing to a level that will permit achievement of higher performance.

(U) Second, a disproportionate number of the requisitions received by the AMC wholesale supply system consists of high priority requisitions, particularly on weekends. Weekend staffing is costly and NICP's/depots are not at full strength which impacts on IPG-1/NORS processing performance. Continuous effort has been exerted to minimize the percentage of high priority requisitions submitted. Also the efficacy of funding and staffing NICP's and depots to a level that will permit performance achievement in excess of say, 90 percent on-time is questionable, when looked at in the context of the entire supply pipeline. Customer requisition submission time and receipt take-up time consume about 10 days of the 19 days IPG-1 order ship time currently being experienced. Supply Source time consumes four days. Reducing Supply Source processing time by two days in order to achieve the UMMIPS standard of two days probably would have very little impact on total order ship time and would most likely not be cost beneficial. During FY 1975, AMC on-time performance did not achieve the established targets for reasons cited above.

Supply Directorate Portion of AMC Program Plan

(U) Each fiscal year the Management Evaluation Branch of the Directorate of Supply develops the supply portion of the AMC annual program. Objectives and tasks are established for supply operations and performance targets set for the NICPs and depots.

(U) During FY 1975, the AMC program format was changed to minimize the number of objectives and specific tasks which were required to meet AMC's overall goals for improved performance. Supply objectives were reduced from 20 to 3 with a total of 35 separate tasks established to support those objectives. In the process, LPMES and LOGMAP objectives were integrated into AMC supply objectives. The AMC program now covers only the execution year rather than a 5-year period and is referred to as the AMC Program Plan for the fiscal year.

Headquarters Management Information System Supply Terminal (HQMIS)

(U) Since February 1974, this office has operated a prototype system of HQMIS to evaluate its use in supply operations. The prototype system consists of a remote terminal equipment configuration connected with the CDC 3300 computer located at the LSSA Data Bank. During this period, the remote terminal had access to MILSTEP on-time performance data and RCS-220, Depot Receiving Performance. Programs Office and Storage Division personnel used the terminal to extract performance data directly from the LSSA computer in forms specified by analysis personnel.

(U) It was determined that the system would be beneficial to the Directorate's operations particularly after all major supply reports were included in the HQMIS file. It was found that at least one portion of the MILSTEP Format 1A report could be eliminated as a result of HQMIS. And, in fact, a substantial amount of manual on-time performance statistics effort had already been eliminated.

(U) One other significant finding of the evaluation was that in every case of differences between manual and machine statistics, the machine proved correct. This confirmed the contention that manual computations are not only time consuming, but much more prone to error. Another part of the evaluation involved the identification of reports that could be added to the system. All divisions of the Supply Directorate were requested to nominate such reports and, as a result, 10 reports were identified. These 10 reports represent the first to be added, not the total. It was contemplated that as the system was used, many more reports would be included.

(U) In FY 1975, three additional reports were added to the HOMIS which allowed accessing of data on NICP supply effectiveness performance, NICP and depot inventory performance and NICP stock positioning. As a result, with the increased automated statistical support, the quality of performance analysis increased, and the manual analytical effort has decreased.

Central Workloading

(U) Central workloading is based on and requires accurate forecasts. AMC/MIDA has developed some improvements in forecasting which were implemented in FY 1975, such as advance copies of forecast to depots for review prior to publication, exponentially smoothed forecast furnished by MIDA to NCIPs in advance of due dates which assisted NCIPs in making forecasts, and reduction in forecast details and submission frequency.

CONCISE

(U) In order to comply with Secretary of the Army's restriction that there be no reduction of personnel at CONCISE affected depots during FY 1975, the following steps were proposed and implemented.

(U) PT&FD added 1,038 permanent spaces to the depots. These spaces were obtained primarily from ARMCOM, ECOM unused permanent spaces. This precluded the need for any RIF action based on lack of manpower spaces. Only temporaries were separated, which PT&FD considered to be permissible. Maintenance Directorate supported most of the maintenance people at CONCISE depots in FY 1975. This resulted in increased costs, but maintenance was prepared to accept them. Recommendations for a short and a long-range plan for the operation of TROSCOM were provided the Plans and Analysis Directorate, HQ, AMC.

The weekend processing policy at depots was changed to limit processing to IPG-1 and NORS requisitions.

Depot Operations Cost and Performance Report

(U) The US Army Major Item Data Agency was directed to assume full responsibility for receipt, preparation, and submission of the Depot Operations Cost and Performance Report to this headquarters. The USAMC Logistic System Support Agency (LSSA) was relieved of responsibility for this report.

DOD Inventory Control Points

(U) DOD directed DSA to form a Study Group with representation from each service and DSA to develop a data base which would enable top management in DOD to compare and evaluate the operating costs and efficiency of DOD Inventory Control Points (ICP's). The 36-week study would be conducted by DSA with a main purpose of developing ICP performance factors compatible among all services and DSA.

Inventory and Catalog Management Program Reorganization and Reorientation

(U) The Inventory and Location Survey Office was reorganized and redesignated effective 3 February 1975 as the Inventory and Cataloging Division. In addition to the Inventory functions, a portion of the Logistics Data Management mission and functions were incorporated. The new division became responsible for developing policy, guidance, and instructions, and providing staff supervision for Army participation in the Federal Catalog System, to include the International Cataloging, North Atlantic Treaty Organization Codification, and Federal Item Identification Guides (FIIG) Improvement Programs. It also assumed responsibility for staff supervision for the development of policy and procedures, and the implementation thereof, for all aspects of the Army Master Data File (AMDF) and was to participate in the staff supervision of AMC activities in the cataloging and item elimination aspects of the Logistics Performance Measurement and Evaluation System (LPMES). In addition, the division was to provide policy and guidance to the US Army Catalog Data Agency (USACDA) for the AMDF Reader Microfilm System (ARMS) and to manage the selection of logistics management data for microfilming plus implementing the phase-out of Army hard-copy Federal Supply Catalogs in favor of microfilm. Other responsibilities had to do with staff supervision of the preparation of the Army-prepared Federal Supply Catalogs, and participation in the development of plans and programs for the implementation of cataloging areas of the Defense Integrated Data System (DIDS) as well as the provision of policy and guidance for the dissemination and use of catalog data.

Revision of Inventory Policy

(U) The Inventory Program was revised in May 1975. The former system of Accounting Supply Distribution Activity (ASDA) scheduling of inventories by use of inventory category codes, has been replaced by a system of depot scheduling through use of a depot developed Order of Merit Listing (OML). The OML sequentially lists items from most to least frequent Materiel Release Order (MRO) activity. Items with five or more MRO's during a year are required to be scheduled for inventory. Items with fewer than five MRO's may be scheduled for inventory after all other items have been inventoried. Small arms, the only exception to this policy, will continue to be inventoried annually. In addition, statistical sampling was discontinued; semi-annual SIMS inventories were discontinued; location record audit was replaced by a location record audit/match which was to include a quantity by condition match of depot vs ASDA records with immediate inventory of mismatching records; annual complete location surveys are replaced by a perpetual survey of storage locations and sample surveys are discontinued with location survey results reported quarterly, instead of semi-annually; and inventory category codes are to be limited to identification of item categories for causative research and reporting purposes. These efforts, in conjunction with on-going projects and studies have resulted in a lower MRD (Materiel Release Denial) rate of 1.5 in FY 1974 to 1.2 in FY 1975.

Inventory and Catalog Training

(U) Two standard training courses were developed by the Army Logistics Management Center (ALMC) to provide the depot and the NCIP personnel with a better understanding of the inventory system and thereby improve performance. The initial depot course was given in April 1975 and the initial NICP course was given in June 1975. During July through September 1975, designated personnel from depots and NICPs were to be trained at ALMC as instructors and then they were to return to their respective activities to train all inventory personnel. All inventory and other designated personnel at depots and NICPs would be trained by February 1976. Results of the initial depot and NICP classes indicate that both courses were highly successful. AMC Cataloging Course was also in process of initiation and would begin 28 July and end 20 August 1975.

Army Logistics Management Integrated Data System (ALMIDS)

(U) ALMIDS, a five-year program to improve supply management data processing and dissemination to all Army users (both wholesale and retail) is primarily concerned with the Army Master Data File (AR 708-1). It is to include the add-on feature involving data being

disseminated by data banks other than the US Army Catalog Data Agency (CDA). DA approved the AMC developed ALMIDS concept of operation 15 May 1975.¹ AMC was designated as the assigned responsible agency and would chair the DA ALMIDS focal point group. CDA was designated as responsible for the ALMIDS system definition, design, development and implementation. It was decided to utilize third generation ADPE at the Major Item Data Agency.

Defense Integrated Data System (DIDS), Phase I

(U) DIDS is the culmination of an evolutionary growth of the original Federal Catalog System and its merger with other DOD logistic programs at Defense Logistics Services Center (DLSC). DIDS is a central data bank which serves as the authoritative source for recording decisions of the DOD components, other federal agencies, and friendly foreign governments in the performance of their logistic management functions, such as procurement, provisioning, inventory control operations, item entry control, maintenance, preservation, packaging, transportation, warehousing, excess redistribution and disposal. In addition, DIDS data bank collects, maintains and disseminates item logistics data for the support of these multiple functions and also serves as the interrogation point for all participants, worldwide. Phase I of DIDS was implemented on 31 March 1975.²

Storage and Transportation Activities

Withdrawal of Materiel and Refugees from Vietnam

(U) The Storage and Transportation Division played an integral part in the final push for and subsequent withdrawal of supplies from the Republic of Vietnam. Working out of an operations center manned around the clock, personnel were called upon to direct movement, monitor the flow and control of Army sponsored cargo as well as provide higher authority with progress reports and information. This intensified coordination culminated with the use of Special Assignment Airlift Missions (SAAM's) which were ultimately used to return refugees to CONUS.

Return of Excesses and Retrograde from Okinawa

(U) US Army Base command, Okinawa, was redesignated the US Army Garrison (PROV), Okinawa (USAGO) on 1 July 1974. The original DA approved target date for restructuring USAGO to an Installation Supply Activity (ISA) was 1 July 1975. This date has slipped to 31 Dec 75. DA designated this headquarters as the Executive Agency to assure expeditious processing of excesses on Okinawa. An AMC Technical Assistance

1

Ltr, DAAG-PAD-A(M) (15 May 75) DALO-SMS-R, 28 May 75, subj: ALMIDS

2

DOD Directives 4100.39 and 4130.2

Team is currently on Okinawa to facilitate subject drawdown. Okinawa originally estimated their potential excess as 84,000 to 105,000 short tons. Approximately 60,000 short tons have been shipped to date.

(U) On-hand Army-managed condition code "E" items, which have been directed for return from Okinawa by the National Inventory Control Points (NICPs) will be authorized to return to CONUS "as is" upon verification by the Army Materiel Command inspection team that the materiel is upgradable to condition code "A" or "B"; otherwise, the materiel will be designated for Defense Property Disposal Office (DPDO).

(U) Army-managed items which have not been reported by Okinawa or directed for return by the NICPs will require expedited item manager review through Pacific Command Utilization and Redistribution Agency (PURA) FTE/FTR procedures using the condition code recorded on Okinawa's ABF. Upon receipt of a FTR directing return, the AMC inspection team will verify condition of the materiel and will authorize direct shipment to CONUS "as is" for DPDO. The same guidelines will be used for condition code "F" and "G" materiel. For condition code "F" materiel, the team will be authorized to draw on their own familiarity, knowledge and professional expertise and use Special Criteria for Retrograde Army Materiel (SCRAM) procedures rather than normal technical inspections to verify condition codes.

(U) The Storage and Transportation Division monitored the progress of retrograde receipts from USARPAC and USAREUR and the processing of those receipts at AMC depots for the past several years. There were sharp declines in retrograde activity from USARPAC during Fiscal Year 1972 through 1974 as summarized below:

	<u>FY 1972</u>	<u>USARPAC</u> <u>FY 1973</u>	<u>FY 1974</u>
Tons Received	150,000	78,200	23,200
Lines Processed	607,000	234,000	154,800
Tons Processed	160,000	85,800	24,300
\$ Value of Mat'l Processed (millions)	1,300	600	188

(U) With the falling off in all statistics, reporting of retrograde activity was discontinued at the end of FY 1974. However, because of the anticipation of a large volume of returns from Okinawa to several West Coast depots, it was agreed that reporting of retrograde activity from Okinawa would be reinstated for Sacramento, Sharpe and Tooele. The statistics

that follow reflect retrograde volume from Okinawa as reported by these depots for the first six months of calendar year 1975. The total receipts were relatively light -- running about 22,600 lines and 2,900 tons during the six-month period. Returns from Okinawa represented a relatively small portion of total receipts at both Sacramento and Tooele. At Sharpe, Okinawa retrograde represented 20% of the total lines received by the depot and about 6% of the tons. Sharpe reported 4,000 line--381 ton backlog at the end of June. No backlogs were reported at other depots. The following table provides summary detail:

Receipts - Jan - Jun 1975

<u>Retrograde- Okinawa</u>		<u>Total</u>		<u>Retrograde as % of Total</u>	
<u>lines</u>	<u>tons</u>	<u>lines</u>	<u>tons</u>	<u>lines</u>	<u>tons</u>
SAAD 4,019	385	171,623	19,725	2.3%	2.0%
SHAD 17,643	1,875	88,406	33,433	20.0%	5.6%
TEAD 905	618	94,371	42,524	1.0%	1.5%
22,567	2,878	354,500	95,682	6.4%	3.0%

Relocation of Army Watercraft

(U) For the past several years, it has been a command desire to completely remove its presence from Charleston Army Depot (CHAD). While CHAD has been deactivated, certain watercraft and an 80-ton rail fleet continue to be stored there. Receipt issue and in-storage functions are performed on contract basis (est. \$1.1M annually) rather than by Government personnel.

(U) During the 1971-72 time frame, various DOD and civilian agencies were contacted to determine the feasibility of entering into an Interservice Support Agreement (ISSA) for storage and support for the watercraft. While some response was received, negotiations were suspended because a substantial investment was involved in site preparation. Because of renewed interest by the Command Group to "get out of CHAD," contact was made in January 1975 with agencies who potentially had space available for our craft, including many whom were contacted earlier. Responses from MTMC and Navy were most promising. TROSCOM was tasked in March 1975 to evaluate the merits of both offers.

(U) Several meetings were held with Navy, most recent on 3 June 1975 for purposes of clearing up questions relative to Army requirements and Navy capabilities. An issue that influenced prior relocation attempts was the availability of dry storage space near water to accommodate those craft whose size allows lifting from water and storage on land. Responses to previous queries had not identified

adequate dry space. Relocation with Navy can be expedited provided as many craft as possible are placed in wet storage. In June 1975, TROSCOM was directed to negotiate with the Navy under this premise. The TROSCOM recommendation relative to potential sites, supported by economic considerations was due on 31 July 1975.

Defense Integrated Management Engineering Systems (DIMES)

(U) The DIMES program has never truly achieved its potential for the Supply Directorate. In its current state, FY 1975, DIMES application within the depot system provides supply management with a tool for evaluation and a basis for analysis of organizational efficiency--very little more. While there is apparently sufficient confidence in the DIMES output to use it for purposes of internal control, there is apparently not yet sufficient confidence to apply DIMES standards data for the broader and more significant purpose of pricing, bidding and workload negotiations with MIDA. In effect, a depot maintains two sets of books; one maintained by the Comptroller, for the purpose of establishing DIMES "standards" and satisfying the other requirements of the DIMES program; and one by the Directorate of Supply for the purpose of developing bid standards used for dealings with MIDA. As a practical matter, there is little relationship between the bid "standard" and the DIMES "standard."

(U) As seen by the Directorate of Supply, part of this dilemma was caused by inadequacies in the DIMES SPEEDEX information package made available to depot supply managers. This office made firm recommendations to the AMC Comptroller relative to improvement/changes that should be made by LSSA to the SPEEDEX product, but progress has been slow. The depots still do not have adequate SPEEDEX output. In December 1974, as an outgrowth of the Directorate's non-concurrence in the New Cumberland Army Depot manpower survey, the Deputy Commanding General for Logistics Support directed the Comptroller to resolve the question raised by the existence/use of various types of standards for resources development. An AMC work group consisting of representatives from Supply, Manpower Survey, PT&FD and Comptroller studied standard development for supply operations at New Cumberland Army Depot, Letterkenny Army Depot, and Tobyhanna Army Depot. The group has concluded that the concept of a bid standard is a necessary one, but that the rationale to support the bid standard must come from a valid application of the DIMES program.

DOD/AMC Packaging Management System (PMS)

(U) In 1968, OASD (I&L) tasked the Army to develop a DOD-wide Packaging Management System which would permit the computerization of packaging data and achieve a greater degree of standardization throughout DOD. After five years of effort, the Army, Navy, and Air Force were in dispute regarding many unreconciled essentials regarding the combining of MIL STD's 647/726/794 and 834, all packaging standards. In March 1975, the OASD (I&L) required the services

to reconcile differences on the DOD Packaging Management System. Full agreement was reached by the DOD working group during 4-5 June 1975 on the final version of a single DOD Packaging Management System. The fully coordinated standard was published 27 June 1975.

Cost Reduction Program - Preservation, Packaging and Packing

(U) In FY 1975, depots reported \$2,605,400 in preservation, packaging and packing savings, 198% of the goal. Several of the major cost reduction innovations include: Commercial packaging \$330,800; parcel post shrink-film system \$274,700; other shrink film applications \$140,300; acquisition of excess packaging materials \$16,000; reuse of packaging materials \$59,500; and reduction in use of insured/registered mail \$3,200.

(U) Of the total \$5,064,200 in cost savings reported by commands, \$3,591,800 (71% of the goal) resulted from prescribing commercial packaging in contracts in lieu of military levels of protection. Other cost savings reported include: Change of packaging materiel/method \$132,600; packaging deviations \$159,800; and use of shrink-film system \$89,800.

Transportation Policy Changes

Realignment of Airlift Clearance Functions

(U) A memorandum from the Deputy Secretary of Defense dated 11 May 1974 realigned aircraft clearance functions. The Secretary directed the disestablishment of the Military Airlift Clearance Authority Agency (MACAA) and the Aerial Port Logistics Officers (APLO's). The MACAA airlift clearance functions were assigned to each of the sponsoring services and the APLO's functions were assigned to the Military Air Traffic Coordinating Officers (MATCO's), Military Traffic Management Command (MTMC) elements.

(U) A representative from the AMC Transportation Branch and representatives from the AMC Logistic Control Agency (LCA), at DA direction, participated in the development of implementing plans for the realignment of airlift clearance functions which were approved by OSD for implementation effective 1 July 1975. In consonance with DA direction, the LCA was assigned airlift clearance responsibility for all Army CONUS outbound airlift cargo.

Direct Supply Support (DSS)

(U) During the past year, DSS was designated as the Army Supply Distribution system. DSS expansion to all FORSCOM/TRADOC installations was scheduled prior to the end of 1975. Distinct distribution plans

were established by Storage and Transportation Division for units in Alaska and Panama due to their unique delivery requirements as compared to intra-CONUS requirements.

Reassignment of the AMC Ammunition Center

(U) The AMC Ammunition Center was established as a separate Class II activity reporting directly to HQ AMC effective 1 July 1971. The control of the Center was vested in the Director of Supply with functional relationships with the Directorates for Maintenance, Personnel and Training, Quality Assurance and Special Assistant for Nuclear Affairs. Due to duplication of effort and in consonance with AMC FY 1975 Goal #1 objective #1, placing emphasis on decentralization of operations within AMC, the DCG directed the transfer of the Ammunition Center to the US Army Armament Command effective 1 July 1975.³

Storage Modernization Plans at New Cumberland and Sharpe Army Depots

(U) AMC approved the Distribution Facility Plan for New Cumberland which included: removal of materials system from the ex-Safeguard Depot, Glasgow, Montana and reinstallation at New Cumberland; expansion of the Consolidation and Containerization Point (CCP) freight receiving and small items sortation capabilities to accommodate increased workload; and acquisition of a computer controlled stock selection system for the fast moving portion of the Loose Issue Function.

(U) AMC approved the Sharpe Army Depot Modernization Plan which included: relocation and expansion of Central Receiving permitting centralization of all receiving action including that of the Consolidation and Containerization Point, with adequate expansion capability; mechanization of preservation and packaging incident to receipt, storage and shipping functions; consolidation of mission shipping activity to eliminate duplication of effort, enhance productivity and assure maximum utilization of on-hand materiel handling equipment.

Packaging Policy/Levels of Protection

(U) Improvements in the Logistics System have resulted in a significant reduction in the requirements for Military Levels of protection. In addition, the Army has found the commercial packaging offered by industry in retail distribution to be economical and acceptable for expendable military hardware. In order to take advantage of reduced packaging requirements, AMC prepared and coordinated a revised AR 700-15, and the AMC implementing regulation, AMCR 746-2, which recognized commercial packaging as a degree of protection. In the revised joint regulation, there are two military levels of protection and a degree of protection, commercial packaging. Level A

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AMC General Order 86, 13 June 1975.

remains as before - maximum military protection. Level B is basically what used to be level C - minimum military protection. Commercial packaging is non-military industry type packaging with specific guidelines which the Army developed and published in FED STD 356.

Automated System for Planning, Evaluating and Controlling Transportation (ASPECT)

(U) The Automated System for Planning, Evaluating and Controlling Transportation (ASPECT) is a major sub-system of the Commodity Command Standard System (CCSS/ALPHA), which is designed to standardize, automate and improve transportation functions at the Army NICPs. The system is being developed through the joint efforts of AMC Headquarters, ALMSA, St. Louis, Missouri and transportation organizations at the Commodity Commands.

(U) During FY 1975, four major events occurred in the ASPECT system. First, in November 1974, a functional coordinating group meeting was held at TACOM with all participants represented. Future development of the system was specifically identified and agreed upon. During the same month, November 1974, an output product for the printing of freight classification and MILSTAMP data on the Procurement Work Directive (PWD) was delivered to the four Commodity Commands under CCSS/ALPHA. This was the first time since the development of ASPECT was announced in February, 1970 that an automated transportation data output was being used at Army NICP's. No problems were encountered.

(U) Then the development of file data for freight classification and MILSTAMP data under the Defense Integrated Data System (DIDS) was implemented on 1 April 1975. Finally, a concept paper for the expansion of transportation data in the procurement processing cycle to include automatically the FOB terms and ASPR/local transportation contract clauses was approved in May, 1975. This program was scheduled to be implemented in March, 1976. Concepts for additional features to be included in ASPECT, including a forecasting feedback system, have been formulated and basic development work on them was ongoing at years' end.

Red River Army Depot Shipment Planning Test

(U) A test consisting of new depot shipment planning concepts was conducted at Red River Army Depot from August 1974 through June 1975. The test concepts included: a focus on the customer's requirements rather than MILSTEP targets; maximum computer shipment planning; maximum shipment consolidation by the computer; transportation influence on storage; a reduction to one MRO computer run per day; a reduction in weekend and 2d shifts; and an order of merit concept.

(U) There are several segments of the total supply pipeline for which the depots are held responsible. One of the concepts the test attempted to measure was the depot's final accomplishments rather than performance on each individual segment. The criteria used to determine the success or failure of the test included: the amount of improvement to customer support at an equal or lesser cost, and the amount of cost reduction realized while providing the customer with equal or better support.

(U) As expected, it was found that during the test period, MRO storage processing performance was significantly hurt at Red River. Customer support, however, was not hurt despite a reduction in weekend and 2d shifts. There were cost reductions associated with the test in the form of transportation savings amounting to \$77,762. Storage savings, on the other hand, could not be clearly identified, although it is felt that savings did occur.

(U) As a result of the final test evaluation, the Director of Supply decided to terminate the test effective 1 July 1975 because conclusive evidence was lacking in support of implementation. However, select features of the test were determined to be superior to the standard system and were to be adopted on an individual basis.

Video Interactive Processing System (VIPS)

(U) In July 1973, Headquarters, US Army Materiel Command (AMC) directed a review of the Systemwide Project for Electronic Equipment at Depots - extended (SPEEDEX) to determine the feasibility of eliminating punched card input and reducing the number of computer products. The SPEEDEX application for receipt, location and inbound transportation was selected for use in developing the Video Interactive Processing System (VIPS). VIPS eliminates the need for card readers and line printers at depot remote terminals. Only cathode ray tubes (CRT's) and typewriters located in the functional user's area are used for input and output respectively. Letterkenny Army Depot (LEAD) was selected as the prototype depot. A task group composed of personnel from LEAD and the Logistic Systems Support Agency (LSSA) was appointed. VIPS prototype testing was conducted between 10 June and 1 August 1974. On 10 September 1974, AMC approved the implementation of VIPS at 10 other depots for the receipt, location and inbound transportation applications. The AMC objective for VIPS is to eliminate 30 percent of card/paper input and output by fiscal year 1976 and 80 percent by fiscal year 1980.

Care of Supplies in Storage (COSIS) Program

(U) The care of Supplies in Storage (COSIS) program was the subject of a broad review completed by the Army Audit Agency (AAA) in FY 1974. The AAA report pointed out a number of program shortcomings, and AMC

initiated changes aimed at improving overall program management. The changes involve better means of evaluating performance, projecting workload, developing manpower and funding requirements, and controlling the program.

(U) Significant actions taken during FY 1975: an automated COSIS system that provides for the exchange of information between depots and NICPS consisting of depot requests for Preservation and Packing authorization and ASDA approval was implemented on 1 July 1975; an Army regulation (AR 740-3) developed specifically for COSIS was published by TAGO, and specific COSIS operating instructions were distributed to both ASDA's and depots; the Joint Military Packaging Training Center (JMPTC) developed a program of instruction and lesson plans for a COSIS Management Orientation Course; the AMC Packaging, Storage and Containerization Center (AMCPSCC) and the AMC Ammunition Center (AMCAC) were tasked with providing COSIS review and assistance to both ASDA's and depots; and the requirement to provide management visibility to the COSIS program and identify the COSIS accounts required revisions to AR 37-100-76 (The Army Management Structure) and its supplement which was staffed with DA, contains the COSIS accounts which are currently in effect within AMC.

Control of Premium Transportation

(U) AMCR 55-8, Control of Premium Transportation, required shipping activities or the Logistics Control Agency (LCA) as appropriate to challenge the need for premium transportation on shipments exceeding 500 pounds which are eligible for high speed movement. The success of the challenge program prompted a revision of AMCR 55-8 to require the shipping activities to develop local criteria for challenging CONUS shipments under 500 pounds. The following statistical data reflects the continued emphasis that AMC places on this program; and the success that is being achieved:

OVERSEAS SHIPMENTS -

<u>Shipments Diverted</u>	<u>Tons Diverted</u>	<u>Resulting Cost Avoidance</u>
5,469	17,409	\$22,202,999

CONUS SHIPMENTS

14,645	16,931	\$ 6,317,540
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Total Cost Avoidance

\$28,520,439

(U) This program received additional emphasis during the 3d Quarter of FY 1975 in that materiel eligible for air movement was further restricted by DA in the interest of energy conservation. This action reduced the amount of cargo that was eligible for premium transportation. Consequently, the total cost saving was not of the magnitude of previous years, but the percent of diversions against total shipments eligible for premium transportation was similar.

Receiving Performance

(U) On-time receiving performance is measured by the Supply Performance Report (AMCSU-220) prescribed by AMCR 740-20 and covers two elements: reporting receipts to ICP's within MILSTRAP time allowances--depots have six days on a receipt from procurement; nine days for other receipts; and placing receipts in permanent storage location within prescribed time frames---seven days for receipts from procurement and ten days for other receipts.

(U) In the face of the highest goal ever established for this indicator, 98% on time performance was outstanding. Performance for FY 1975 reached 97.3%---the highest yearly accomplishment on record, and a full 3½ points above FY 1974 performance of 93.8%. All depots but Red River and Corpus Christi equalled or exceeded their goals. CCAD (97%) missed fractionally. RRAD (93%) was off by a wider margin, but still operated within the range of acceptability. Long term trends, system wide and for most individual depots have been favorable, as shown in the table below:

On-Time Receiving Performance to ICP's (1973-1975)

	<u>FY 1973</u>	<u>FY 1974</u>	<u>FY 1975</u>
AMC	84.9%	93.8%	97.3%
ANAD	93%	98%	97%
CCAD	91%	94%	98%
LEAD	91%	94%	98%
LBAD	85%	98%	99%
NCAD	86%	95%	98%
PUAD	94%	98%	98%
RRAD	78%	96%	93%
SAAD	73%	84%	98%
SVAD	100%	100%	100%
SEAD	100%	99%	98%
SHAD	91%	94%	99%
SIAD	97%	99%	98%
TOAD	94%	96%	98%
TEAD	67%	94%	99%
UMAD	99%	28%	100%
Total	887%	747%	737%
Lines			
Processed			
AMC (000)			

(U) As may be seen from the above table, the volume of MRO's processed remained about the same level as in FY 1974. FY 1975's volume was 17% below the FY 1973 mark.

Storage Performance

(U) On time storage also reached an all time high for a full year---96%, slightly below the goal of 98%. Performance was 5 points higher than in FY 1974 (91%) and 16 points higher than the 80% mark posted in FY 73.

(U) The depots that achieved or surpassed the goal were Anniston, Lexington-Blue Grass, Pueblo, Savanna, Sharpe, Sierra, Tobyhanna, and Umatilla. All other depots (except Red River) missed the goal by one or two points. Red River finished the year at 89%, and was the only depot to show a decline in performance from FY 1974. Long term improvement for most individual depots was gratifying, as seen in the following table:

On time Storage Performance - FY 1973 thru FY 1975

	<u>FY 73</u>	<u>FY 74</u>	<u>FY 75</u>
ANAD (Anniston)	82%	90%	97%
CCAD (Corpus Christi)	93%	91%	97%
LEAD (Letterkenny)	82%	90%	97%
LBAD (Lexington-Blue Grass)	81%	97%	99%
NCAD (New Cumberland)	87%	96%	97%
PUAD (Pueblo)	94%	97%	99%
RRAD (Red River)	73%	91%	89%
SAAD (Sacramento)	69%	78%	97%
SHAD (Sharpe)	85%	91%	99%
SIAD (Sierra)	99%	98%	100%
TOAD (Tobyhanna)	86%	96%	99%
TEAD (Tooele)	69%	91%	96%

(U) A three-year history was not available at SVAD (Savanna) and SEAD (Seneca) and UMAD (Umatilla), therefore, these depots were not listed in the tabulation.

Storage Space

(U) During FY 1975, the net to gross ratio for covered storage space (minus igloos and magazines) continued to meet the goal of 65 percent ratio at USAMC depots and depot activities. Covered storage space occupancy rose to 87% during the period and all measurable storage data met or exceeded DA optimum targets. OSD

(I&L) has reissued DODI 4145.5 with the principle change being the addition of cube reporting and forecasted five-year storage space requirements.

Depot Modernization

(U) During FY 1975, projects related to construction and modernization depot supply operations were initiated at four depots amounting to \$15,084,300 as follows:

<u>DEPOT</u>	<u>PROJECT</u>	<u>COST</u>
Anniston	Repair and Processing Vehicle Facility	\$3,305,300
	Tow Conveyor	165,200
Corpus Christi	Supply Storage Operations Building	5,200,000
Letterkenny	Care and Preservation Facility for Combat Vehicles	4,573,800
New Cumberland	Medium packing, Power & Free Conveyor	1,322,200
	Light/Heavy Packing Systems	425,000
	Intra-depot Transporter Stations	62,800
	Automated Materiel Handling Systems	30,000

(U) In addition, associated with depot storage operations, contracts for \$900,600 were awarded for capital equipment and storage aids at Anniston, New Cumberland, Sacramento and Tobyhanna.

Chemical Munitions

(U) Thirty-two shipments of lethal chemicals for research purposes were made during FY 1975 in accordance with the extremely stringent requirements of AR 55-56 and AMCR 55-1. Shipments were made for the purpose of testing prototype demilitarization equipment and facilities, testing newly developed detection equipment, or surveillance analysis of bulk stored chemicals. Shipments involved small quantities of lethal chemicals.

Stock Management and Policy

National Stock Number (NSN)

(U) The provisions furnished by Military Standard Systems Branch aided in the successful conversion from the Federal stock number (FSN) concept to the National stock number (NSN) which was accomplished during September 1974.

Classes of Supply Changes

(U) Subsequent to the publication and distribution of SB 38-1, Classes of Supply, it was learned that supply bulletins were not reaching the same people as other publications dealing with classes of supply such as FM 101-10-1, Logistics Data, or FM 100-10, Combat Service Support. Consequently, it was proposed by the AMC Supply Directorate (AMCSU-MD) to the Adjutant General Center that FM 38-24, Classes of Supply, be published and SB 38-1 rescinded. Since this action impacted on other publications such as AR 11-8, AR 708-1, SB 700-20, and SB 700-40, AMCSU-MD ensured that changes were incorporated as appropriate. The proposed FM was completed and published in May 1975. A broader distribution of FM 38-24 should result in an expanded use of the classes of supply as a logistics tool in both areas of planning and operations alike.

(U) The need for valid consumption (planning) factors based on the ten classes of supply has long been recognized by DA. This fact was set forth by DCSLOG 9 June 1975.⁴ However, AMC had already recognized the need for a sound means of acquiring consumption data stratified by the ten classes of supply and had taken action to code each item in the Army Master Data File (AMDF) by class and subclass of supply. Also, since Army-in-the-field supply organizations are class of supply oriented, it was determined that the class of supply AMDF data was the sole means of relating items to specific type supply units. This fact was highlighted during a visit to Europe by MG Johansen, Director of Supply, during early May 1975 and resulted in a letter directive by MG Johansen to the NICP's and SICC's stressing the need for accurate coding of items and setting the AMC goal for accomplishing the task.⁵ In addition, the essentiality of accurate coding was expressed due to the impact on war reserve stockage data (SB 700-40), asset data reporting (SB 700-20), unit readiness reporting (AR 220-1), and consumption factors (FM 101-10-1).

(U) AMC response to DA DCSLOG concerning the adequacy of "Planning Factors" identified action regarding the coding of items in the AMDF and proposed the establishment of sound consumption data based on actual supply and movements transactions by inserting classes of supply codes in the supply requisition card format.⁶ In order to

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Letter, DALO-PLD, HQDA, 9 June 1975, subject: Planning Factors.

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Letter, AMCSU-MD, HQ AMC, 16 May 1975, subject: Coding of Army Used Items by Classes of Supply.

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Letter, AMCSU-MD, HQ, AMC, 25 June 1975, subject: Planning Factors.

publicize the ten classes of supply, to provide information regarding the future role in the logistics area and to assist NICP's and SICC's in coding their items in the AMDF, FM 38-24 was prepared and published.⁷ Subsequently, it was determined that problems concerning the coding of items in the AMDF could be attributed to the class of supply definitions which were developed during the mid-1960's. Therefore, AMC initiated action to revise and update the definitions.⁸

Army Wholesale Logistics Literature (AWLL)

(U) In keeping with the policy of improving Army-wide Training Literature publications, the Training and Doctrine Command (TRADOC) indicated that it would restructure its publications into a field manual format and be indexed in DA PAM 310-3. Since AMC is responsible for the other DA portion of the Army-wide Training Literature Program (ATLP), specifically Army Wholesale Logistics Literature (AWLL), a proposal was submitted to HQDA requesting that approval be granted to establish a logistics manual (LM) as a counterpart of TRADOC's FM's. The AMC proposal, however, was not favorably considered by HQDA who requested additional justification. Subsequent discussion with TRADOC concerning the nonfavorable DA response to the proposed LM concept indicated that they would support any future resubmission of the LM proposal and requested that said resubmissions be submitted thru HQ, TRADOC.

(U) On 5 February 1975, the Director of Supply forwarded an AMC rebuttal to the HQDA position. The rebuttal emphasized that there was a user problem, and in fact identified four problems in the area of supply that reader comprehension would resolve. At the direction of HQDA, action was taken by the AMC Logistics Doctrine Branch to coordinate the introduction of the AMC developed numbers and titles into Army field manuals with HQ, TRADOC. In order to assure that all proponents of logistics manuals would have a voice in the use of the newly proposed numbers and titles, a meeting was scheduled for early July 1975 including representatives from TRADOC, LOGC, TSG, COE and TAG.

Commodity Command Standard System (CCSS)/ALPHA Cell/Subcell Review

(U) In October 1974, the Directorate for Supply conducted a detailed review of cells/subcells. The purpose of the review was to determine the adequacy of functional support provided this Directorate by ALPHA. The review resulted in identifying strengths

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FM 38-4, Classes of Supply, 30 May 1975.

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Letter, AMCSU-MD, HQ AMC, 9 June 1975, subject: Coding of Army Used Items by Classes of Supply.

and weaknesses associated with that support. One conclusion drawn from the review was that the volume of outstanding change requests diminishes the effectiveness of ALPHA's functional support. A more important conclusion was that, despite the volume of changes, ALPHA shows a potential for becoming a sound, viable, management tool in support of the functional activities of the Directorate for Supply. A report on the review was submitted to the Director of Management Information Systems on 7 November 1974.

Control of System Change Requests

(U) Directorate for Supply Memorandum No. 25 titled, "Control of Systems Change Requests," was published in November 1974. This memorandum furnished procedures for the initiation, processing, and control of ALPHA System Change Requests within the Directorate.

Headquarters Systems Steering Group

(U) The HQ Systems Steering Group (SSG) met on 23 April 1975 and again on 28 May 1975 to discuss future actions to be taken with respect to the CCSS/ALPHA system. As a result of these meetings, the Directorate of Management Information Systems was drafting a procedure for the review of Systems Change Requests (SCR's) which was intended to lead to a reduction in the number of SCR's through the elimination of many "nice-to-have" changes. In another action, HQ AMC directorate personnel were working with ALMSA personnel in the development of a HQ AMC Priority List for New Systems Development.

Materiel Management Conference

(U) A Materiel Management Conference was held at ALMSA on 1-2 May 1975. The purpose of the conference was to update the commodity command Directors of Materiel Management with respect to those Directorate for Supply, Secondary Items Management Division projects now being developed by ALMSA for inclusion in the ALPHA system.

Set Assembly/Disassembly Meeting

(U) Representatives from the commodity commands met at HQ AMC on 24 June 1975 for the purpose of determining the approach to be taken in the development of an automated Set Assembly/Disassembly system. An additional meeting will be held in the near future to finalize the details of the development approach. This project will be considered new systems development and will result in the elimination of a great deal of manual effort now required of the commodity commands.

The AMC Revised Distribution Plan

(U) During the past two years, AMC explored methods to improve wholesale materiel support to the soldier in the field while making

maximum use of less resources. One of the improvements developed is a revised AMC materiel distribution plan. Under the previous plan, AMC commodity commands were permitted to use several designated depots for distribution. No one depot had a secondary item distribution mission supporting all commodity commands. Generally, major items were stored and distributed by depots having a corresponding depot maintenance mission. The dispersal of stocks under the previous plan contributed to increased operating costs and adversely affected timely customer support.

(U) The revised plan positions secondary items for all commodity commands at three depots: New Cumberland for Europe and eastern United States; Sharpe for Pacific, Alaska and western United States, and Red River for Latin America and the central, southern and south-eastern United States. Although the revised plan was approved by AMC on 5 July 1973, implementation was suspended by the Assistant Secretary of the Army (Installations and Logistics) because of the overall examination of the AMC structure under the Army's long-range CONUS stations and installation plan (Project CONCISE). On 22 November 1974, DA announced that the plan had been approved by OSD as a part of Project CONCISE.

(U) The phased implementation provides for relocation of stocks by attrition. Target date for complete implementation was set at 30 June 1976. The following improvements would be achieved upon full implementation: Improve Direct Supply Support (DSS) to overseas customers by having the distribution mission and the consolidation and containerization points collocated at one depot on the East and West coast; customer support provided for all commodities from a single depot within a given support area; more efficient depot operation thru consolidation of workload; and more effective utilization of warehouse storage space and mechanized equipment.

(U) Depot workloads for the period January - July 1975 indicated that implementation of the AMC Revised Distribution Plan was progressing smoothly. The shipping activity was on the rise and receipts on the decline at nonmission depots while the secondary item distribution depots were experiencing increases in both receipts and shipments. Relocation of stocks by attrition and bulk interdepot transfers was progressing as expected and full implementation was expected to meet the 30 June 1976 target date.

Weapons Management Improvement Program (WMIP)

(U) The Assistant Secretary of Defense for Installations and Logistics (ASD (I&L)) directed the establishment of a Joint Requirement Group (JRG). This group developed specifications for a DOD-wide small arms serial number control system. The plan was forwarded to ASD (I&L) on 27 June 1974. The plan encompasses a DOD central

registry to identify the accountable service/Defense Supply Agency (DSA) registry for a specific serial numbered weapon. The DOD central registry was to be located at and under US Army Armament Command (ARMCOM) control. Interservice and DSA transactions would be reported to the DOD central registry. Transactions within the services and DSA would be recorded on their own registry and would not be reported to the DOD central registry. Standard formats and codes were developed for use in reporting transactions. However, on 5 September 1974, ASD (I&L) advised the JRG that the 27 June plan was not acceptable and directed a new plan be developed for one central DOD registry at a single location instead of the five separate registries as outlined.

(U) A DA Task Group meeting was held 6-10 January 1975 at ARMCOM to review draft WMIP user Procedures and complete the Army WMIP implementation procedures. DA directed the implementation of the WMIP and established milestones for the accomplishment of the program.⁹ The Directorate of Supply, AMC, directed ARMCOM to establish a DOD/DA Central Registry at Rock Island. During February 1975, DOD/DA Central Registries were established, user, Depot and DOD/DA draft procedures were completed, and a DOD/DA WMIP office was established within the Materiel Management Directorate at ARMCOM with authority to hire ten personnel for staffing the office. Initial registration of small arm serial numbers began in April 1975 and the loading of small arm data into the computer was completed 30 May 1975. Modification of all small arms contracts was completed 1 August 1975.

General Services Administration (GSA) Materiel in AMC Depots

(U) In the latter part of 1973, the inventory team noticed that there were a considerable number of items on the depot custodial records which were shown as GSA managed and GSA-owned, but for which there was little activity. A check with GSA indicated that they were not aware of these items being in the AMC depots. Based on a meeting with GSA, a procedure was developed by AMC which provided for the utilization or disposal by the depots of any line item with an extended value of \$50 or less. All remaining items were reported by the depots to the General Materiel and Parts Center who in turn reported the items as excess to GSA and provided the depots with disposition instructions.

(U) It appears that the major portion of these items were generated as a result of logistical reassignments since the same problem was previously discovered for DSA items. The US Army Maintenance Management Center has been tasked to review the logistical reassignment procedures to determine where the problem lies. The study was scheduled for completion in September 1975.

Intransit Asset Visibility System (IAVS)

(U) Due to changes/developments in both the Army's logistic system and organization, the IAVS concept, as originally developed during the

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Message D/A, (DALO-PLS), dtg 211510 2 Jan 75.

1970-71 time frame, appeared to no longer be the most effective means for providing timely intransit data. These changes/developments were generally related to: the disestablishment of HQ USARPAC, HQ USARAL, HQ USARSO, and the elimination of the associated SAILS (A-) data bands for these theaters; the worldwide implementation of DSS; the development of the CBS method of producing the Worldwide Asset Position (WWAP); and the development of a SIMS-X concept for daily asset status reporting.

(U) In this regard, this headquarters began examining the necessity of continuing the Intransit Asset Visibility System (IAVS) beyond the period when the Direct Support System (DSS) and the Continuing Balance System (CBS) were to become fully operational in the 2d Qtr FY 1976. In that both DSS and CBS were scheduled to be fully implemented by the end of 2d Qtr FY 1976 and that intransit data requirements may be satisfied from these systems or other sources, need for/benefits from continuing the IAVS beyond this period becomes questionable. In view of this, this headquarters recommended that further extension/expansion of the IAVS be suspended and that termination of the IAVS be effective 1 January 1976.

Vertical Management

(U) Selected Item Management System (SIMS) Improvement Actions. FORSCOM/TRADOC Installations under SAILS and BASOP's had no capability to process SIMS referral orders which were being forwarded from the wholesale NICP's. Initial assistance was provided to aid US Army Logistics Center in developing interim manual referral processing procedures and in planning for the required automated capability. Additional assistance was to be provided to insure the success of the SIMS referral efforts.

(U) Selective Items Management System - Expanded. The major accomplishments in SIMS-X development during FY 1975 were: preparation of a General Functional System Requirement and submission to DA in August 1974 for staffing and approval; and after receipt of additional SIMS-X guidance from DA, SIMS-X Detailed Functional System Requirement (DFSR) was initiated and a major portion of the DFSR was completed and it was anticipated that the entire DFSR would be completed, staffed and approved during the 1st quarter, FY 1976.

Recovery and Utilization of Precious Metals

(U) On 16 January 1974, the Assistant Secretary of Defense (ASD) gave the Defense Supply Agency (DSA) the DOD single management responsibility for reclamation, refinement and utilization of precious metals. As of the end of FY 1975, a draft DOD Directive 4160.22, subject: "Recovery and Utilization of Precious Metals" had been drafted by DSA. DA and AMC staffed the draft during January and February 1975 with the various commands and concurred in the proposed draft.

On 14 May 1975, a DSA Memorandum and questionnaire pertaining to a survey of existing and required recovery equipment, was staffed with all AMC elements, commands, and activities reporting to AMC.

Stock Management Policy Changes

(U) Back Order Reconciliation and Validation. Effective July 1974, the back order reconciliation was forwarded to recipients via AUTODIN. Current Back Order Validation (BOV) procedures prescribe that commodity commands (ICPs) select and forward to the requisitioner those back order records eligible for validation and reconciliation. The effectiveness of this system, commonly known as "tops-down" has been under fire periodically since 1971. Office of the Assistant Secretary of Defense for Installation and Logistics (OASD I&L)) Memo dated 16 August 1974 directed that an ad hoc committee be established to develop a uniform standard military service/agency system which would provide procedures for monthly validation of materiel obligations. Staffing within the Military Services, Agencies of the DOD proposed "Bottoms-up" BOV procedures was completed and response provided to the DOD MILSTRIP Coordinator in May 1975. The Army concurred in principle with the new procedures, but non-concurred in the following items contained in the proposal: implementation date of 1 January 1975; automatic Cancellation of Customer Requisition; selection Criteria for BOV candidates; and single card Summarized Status Respond. A summary of the Military Services/Agencies comments was forwarded to OASD in June 1975. Policy guidance from OASD necessary to complete revision of Back Order Validation procedures was expected prior to 1 September 1975.

(U) Basic Issue Items (BII). This headquarters (AMCMA, AMCSU-K and AMCSU-M) has been working with the Army Logistics Center, Ft. Lee, VA in developing a standard definition of what constitutes a BII. A tentative agreement has been reached and the proposed definition is as follows:

"BII are those minimum essential items, publications, and safety-related equipment required by the operator/crew to place the major end item/system in an operational mode, to operate the major end item/system, to enable it to perform the mission and function for which it was designed or intended, and to perform emergency repairs that cannot be deferred until completion of the mission."

(U) Nonreturn of BII has been a problem, particularly in view of policy requiring an end item to be fully equipped prior to issue to the field. To resolve this problem, a message, DACA-FA 252059Z Nov 74, was disseminated worldwide pointing out that responsibility for the total cost of replacing all missing BII not normally procured with PA funds lies with the losing activity.

(U) Positioning of Secondary Items in the Wholesale Supply System. The AMC Revised Distribution Plan was approved by DOD for implementation on 21 Nov 74. Under the revised plan, the stockage and issue of secondary items to support field activities worldwide would be limited to three distribution depots. New Cumberland Army Depot would support Europe and the eastern United States. Sharpe Army Depot would support the Pacific, Alaska, and the western United States, Red River Army Depot would support Latin America and central, southern and southeastern United States. Under the revised plan, the customer would receive all support for secondary items from a single AMC depot instead of the many depots under the previous mission assignments.

(U) Additional policy changes in the revised plan areas follows: at the discretion of the Commodity Commander, secondary items required for set assembly, assembly of basic issue items and support for approved depot maintenance programs may be stocked in the three secondary item distribution mission depots or prepositioned at the depot where the appropriate actions are expected to be accomplished; unserviceable secondary items requiring depot maintenance would be evacuated to, stored and repaired at those depots assigned the depot maintenance mission. Items repaired at nonmission depots may be bulk relocated to the appropriate secondary item distribution mission depots or shipped direct to the customer if there was a full container load; and items having a total quantity of six (6) or less on the shelf are classified as low density items and selection of the distribution mission depot for these items are to be made on the item-by-item basis utilizing the location with the greatest number of demands.

(U) Taiwan Materiel Agency Phaseout. The Taiwan Materiel Agency (TMA) was scheduled for a complete phaseout as a US activity by 30 June 1976. Since the Taiwan Materiel Agency had been in existence for five years an accumulation of excess materiel and repair parts had been realized. Accordingly, a supply oriented phase-out plan was developed to encourage the orderly disposal of excess repair parts, assemblies, major items and other materiel. Special disposition instructions were promulgated. These instructions will permit timely return to CONUS of "as is" NICP directed excess materiel or authorization to ship to PDO "where is."

(U) Commercial Construction Equipment. The concept of the CCE program calls for the replacement of military designed or military modified commercial equipment used by Army engineer construction units with modern current production commercial construction equipment. The program was initiated in an attempt to improve the logistical support for low density construction equipment. Under this program the policy on repair parts support was revised to assign National Stock Numbers to only PLL/ASL items. All other repair parts are to be requisitioned by the manufacturer's part number, identified thru use of

commercial manuals which have been authenticated by the Army. Supply support for non-NSN repair parts are to be provided by the Defense Construction Supply Center (DCSC) through the use of Indefinite Delivery Type Contracts (IDTC) with selected suppliers.

(U) End items selected for this program are limited to those being used by civilian industry at the same configuration for at least one year. The program is designed to eliminate the need for military testing and field evaluation. There are currently five various items of equipment in the procurement process: Crane, Hydraulic, Truck Mounted, DED, 25-ton, Harnischfeger Corp. 226 each; truck, dump, DED 20 Ton, International Harvester, 551 each; tractor, crawler, T-11, with winch, with ripper, Caterpillar, 286 each; loader, scoop type, DED, 2½ ton, 4 x 2, articulated frame steer, 5 cubic yard, Clark, 115 each; and tractor, wheel, with backhoe loader, Deere Co., 244 each. Other items being readied for procurement include: compactor, high speed; mixer, concrete, truck mounted, 8 cubic yard; tamper, piston, hammer, engine driven; roller, pneumatic; roller, compactor; roller, 10-14 ton, steel wheel; distributor, water; kettle; compressor, 750 CFM; grader; and distributor, water, 6,000 gallon.

(U) Distribution of Support Items for New Equipment. Chapter 9, AR 700-120 outlines the policies and procedures to be employed in providing repair parts for new equipment being deployed or when there has been a 25% increase in density of such equipment in a command. The latest revision was published on 26 August 1974 with an effective date of 15 October 1975. There were two major policy changes. First, the initial provisioning of repair parts overseas would be limited to the organizational, direct support/general support level. Provisioning at these levels would be in support of mission essential items only. Second, regarding the distribution of supply, there are now three methods (options) for distribution of supply items for new equipment, i.e., "Pull," "call forward," or supply support package. The supply support package (push) shipment would only be utilized at the direction of HQDA. Under the "pull" option, the gaining command service or agency would submit funded requisitions direct to the issuing service sources of supply after review of the Master Support List. Under the "call forward" option, the gaining command would select the items desired from the Master Support List and would authorize the issuing service to ship the designated items and deduct the funds from the gaining command's account.

Army Logistics Master Plan (LOGMAP)

(U) During FY 1975, the Director of Supply approved an objective for implementation of LOGMAP in the FY 1975 AMC Headquarters Program Plan. The objective was submitted thru programing channels to the Chief of Staff for approval and and publication in the program document.

The objective sought - "Through implementation of the Army Logistics Master Plan (LOGMAP), refine the standardization of wholesale inventory management automated systems; assure integration of emerging doctrine and supporting systems for wholesale logistics; and insure inclusion of the latest wholesale logistics concepts and doctrine in the Army Training and Literature Program." At the end of FY 1975, the proposed objective had yet to be approved by the Chief of Staff, HQ, USAMC.

(U) AMC activities in support of LOGMAP were of a continuous nature. In addition to the day-to-day business in support of LOGMAP specific and sub-objectives (example DSS, CCSS, etc.) AMC on-going actions throughout the year included the following: membership in the Army Logistics Policy Council; publication of items in the Army Logistics Policy Council Bulletins related to AMC on-going programs, new concepts and problem areas; submission of recommendations to DA DCSLOG for improvement of LOGMAP with special emphasis on specific and sub-objectives; conduct and review of studies in support of LOGMAP objectives; quarterly progress reporting to DA DCSLOG on status of AMC designated projects in DA Pam 701-1-3, LOGMAP "Development and Implementation Digest;" and identification of LOGMAP implementation, including programed tasks, as an objective in the AMC Headquarters Program Plan, and reporting of progress thru normal staff review procedures.

DOD Logistics Systems Plan (LOGPLAN)

(U) During the second half of calendar year 1974, five of the seven Logistics System Policy Committee (LSPC) Task Groups completed study projects and were inactivated. Consequently, nine AMC personnel assigned to these task groups were returned to regular duty stations. Two AMC people were still assigned full time to Task Group 6-73 which was scheduled to remain active until October 1975. A revision to LOGPLAN was published by the Logistics System Policy Committee in October 1974. This publication incorporated changes 1, 2, and 3 and changed the 1972-1980 cover dates to FY 75 - 81.

(U) During the 3rd quarter FY 1975, the ASD (I&L) approved the recommendations contained in the final draft report of LSPC task group 4-73 which related to the development of Standard Warehousing and Shipping Automated Systems. By ASD(I&L) memo dated 7 May 1975 the Director, Defense Supply Agency, was assigned the responsibility, with executive authority, over the planning, direction and development of this task including computer hardware and software associated with the project. This project under LSPC auspices will require active participation by the Military Services and be identified as LSPC Implementing Action LD-12b (DOD Standard Warehousing and Shipping Automated System Development Project). In a response to DA on 6 June 1975 AMC concurred in the draft task order, providing that the participants be assigned on a permanent change of stations basis in lieu

of TDY in view of the extended period (FY 1976 - 1979) of the proposed project. It is expected that AMC participation will be three GS 12/13 functional specialists, probably from AMC LSSA.

AMC Pamphlet 725-1 Revisions

(U) The Maintenance Management Center has been asked to update AMC Pamphlet 725-1 to include all changes made to the recently revised AR 725-50. In order to provide users only the codes that they need, MMC has prepared three draft publications for three separate levels of supply. These code books will be for the Unit/Organization level, DSU/GSU/Installation level, and NICP/Depot level. These books would be Field Manuals (FM) and replace the current AMCP 725-1.

(U) The FM's would be code books of frequently used requisitioning, transportation, supply management and logistics codes. The purpose of these code books would be to provide standard, ready and convenient reference for use by personnel at the various levels in the supply system. They would facilitate code retrieval and correct usage, reduce rejects and thereby improve order and ship time (customer support). Working drafts for all three FM's were forwarded by MMC in May 1975. The unit level publication was under review and was to be returned to MMC with recommended changes/additions for the final draft.

Retail Inventory Management Stockage Policy (RIMSTOP)

(U) AMCSU-MI was this Headquarter's focal point for collecting and preparing all Army data required for presentation to the Office of the Secretary of the Defense Working Group on Retail Inventory Management Stockage Policy (RIMSTOP). The RIMSTOP Committee has been composed of representatives from all the Services. The major objectives of the committee was to develop a standard DOD stockage criteria and other management procedures for secondary items used at supply echelons below the wholesale level. The committee also sought to identify and optimize the various levels of secondary item inventories below whole-sale level.

(U) Although the study group's efforts were focused primarily on retail stockage policy; the briefings, fact sheets, visits and other data thus far presented have included overviews of wholesale systems and practices. The prime emphasis has been keyed toward, but not limited to wholesale inventory policies, wholesale inventory levels, requisitioning supply channels, systems support controls and visibility, placing these tasks/projects/subjects in proper perspective. The RIMSTOP Committee's project was scheduled for completion in September 1975.

DOD Study/Test on Demilitarization of Small Arms

(U) On 22 August 1973, OASD directed DSA to conduct an in-depth review of small arms demilitarization to evaluate the organizational arrangements for accomplishing demilitarization, the economics of demilitarization actions, and the effectiveness of program controls. Operating procedures were developed at a DSA meeting held on 28 January 1975. Army representation consisted of AMC, ARMCOM, Rock Island Arsenal and Anniston Army Depot. Although the cost accounting data base had not been approved by the close of FY 1975, when approved the test would begin with the two selected sites being Anniston Army Depot and Robbins Air Force Base.

(U) On 11 April 1975, a proposed DSA implementation plan was staffed with Anniston Army Depot (AAD), Rock Island Arsenal (RIA) and ARMCOM for comments due by 24 April 1975. On 1 May 1975, consolidated AMC comments were forwarded to DA (DALO-SMP). As of 11 May 1975, AAD and a member of the DSA Memphis Region had worked out specific details on the local level for the test. Unofficially, AAD has agreed to have 25 tons of small arms and small arm parts ready for DSA sales on or before 7 August 1975. At the close of FY 1975, AMC was awaiting official notification from DSA that the Army comments to the implementation plan have been accepted and included and that DSA was ready to begin the test.

Management of Major Items

General Philosophy

(U) A primary objective of the Department of the Army is the maintenance of a high state of logistics readiness of US Army units worldwide. In keeping with this, an extensive and aggressive intensive management program has been conducted throughout AMC supply activities to assure timely logistic support of both major items and repair parts. Accordingly, the Director of Supply directed that the Chief of the Major Items Management Division be assigned the responsibility for the overall logistics readiness posture of US Army units worldwide. Under this "readiness umbrella" concept, the Chief, Major Items Management Division was designated the AMC President-in-Charge of Logistics Readiness. A senior individual in the Materiel Management Division of each commodity command has been designated the Vice-President-in-Charge of Logistics Readiness and serves as the focal point in that command for logistics readiness matters outlined in AR 11-14, AR 220-1, and AR 700-98.

(U) The primary thrust of the Major Items Management has been toward Unit Readiness as reported under the DCSOPS/ACSI Computer System (DACS) Report. Within the AMC Major Items Management Division

The Major Items Readiness Branch has been tasked with the functional management of the day-to-day program. The program includes an analysis of the wholesale logistic support provided to major commands to achieve unit readiness, and an analysis of the Materiel Assistance Designated (MAD) Report which depicts the RICC-1 shortages, Equipment on Hand (EOH), and unit repair parts shortages affecting Equipment Serviceability (ES).

(U) Other division tasks include monitoring the DACS Report and Army reorganization schedules to coordinate logistics support and maintaining interface with Active Army units, National Guard Bureau, AMC Logistics Assistance Officer, and AMC NICP's on those major and secondary items/repair parts directly affecting the logistics posture of US Army units worldwide. The division also had to assist in the development of DA policy, procedures, and directives concerning unit and materiel readiness, data collection, reporting systems, etc., and participate in DA Materiel Logistics Assistance Visits, Command Logistics Review Team Visits, and other readiness support visits.

Closed Loop Support (CLS) Program

(U) DA directed that the CLS program for other than aviation systems (includes avionics and armament sub-systems) items be terminated 30 September 1974. AMC implemented the DA directive and to continue effective support for former ECOM CLS items, established a two-way communication system traffic between ECOM and supported commands. The Aviation Closed Loop Support System was renamed the Worldwide Aviation Logistics Program with the chairmanship assigned to the AMC Maintenance Directorate.

Implementation of Wheels Study

(U) The Wheels Study Group (WSG) and the Tactical Vehicle Review Board (TVRB) made an extensive study of Army wheeled vehicle authorizations in accordance with Chief of Staff, Army instructions.¹⁰ The Wheels study is a comprehensive analysis of the Army's needs for the program management and utilization of wheeled vehicles and related equipment. The basic objectives are: insuring that the wheeled vehicle requirements at the lowest levels are realistically attainable, expansion of the use of commercial vehicles, improvement to the vehicle management processes and organizational structure, and improvement of acquisition procedures and wheeled vehicle utilization through development of cost associated decision making information for use in fleet management.

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Chief of Staff Memorandum (CSM) 72-15-28, 10 February 1972,
subject: Special Analysis of Wheeled Vehicles (WHEELS).

(U) The net result of the WSG and TVRB wheels study recommendations was an approximately 30 percent reduction in the quantity of wheeled vehicles authorized Army-wide. The application of the approved recommendations to each applicable TOE resulted in DA imposing a moratorium on the depot issue of wheeled vehicles to preclude shipment of vehicles to an installation which would possibly become excess after receipt of the new authorization documents. The recommendations resulted in procedures, developed in August 1973, to accelerate the redistribution/disposal of wheeled vehicles and consolidation of data packages reflecting excesses and shortages. The procedures were offered to the overseas commands, but they were rejected. Overseas commands preferred to accomplish their own cross-leveling and excess their vehicles, in accordance with current directives, on a gradual and continuing basis.

(U) FORSCOM and TRADOC in April 1974, and the NGB in July 1974, forwarded their initial data packages, after they completed their intra-installation cross-leveling of vehicles, to TACOM for review and study of requirements and excesses to determine inter-installation redistribution actions. TACOM coordinated with FORSCOM, TRADOC, and NGB to determine which wheeled vehicles would be used to fill specific requisitions, to explore upgrade of equipment by FORSCOM/TRADOC maintenance shops and to process distribution documents, as appropriate. Wheeled vehicles offered to MIMEX (Map Utilization of Major Items in Long Supply or Excess) are subject to strict MIMEX screening requirements. Delayed responses for vehicles offered to MIMEX caused delay in providing disposition instructions to CONUS commands.

(U) The Secretary of Defense advised major commands in November 1974 that congressional action was under consideration which might result in charges to the Military Assistance Program of one-third the acquisition cost for items supplied under MIMEX. DA requested AMC to take action to implement the OSD message. AMC requested major subordinate commands to suspend supply action until further notice on all FY 1975 MIMEX Program/Requisitioning on which the items had not been shipped from storage sites. The NICP's furnished data to AMC on suspended deliveries in order that further action could be determined in conjunction with unified commands. This suspension delayed "Wheels" implementation and increased storage requirements at installation level. The suspension was lifted in May 1975 at which time TACOM completed action on about 99% of 17,723 vehicles reported excess on the Wheels program. Until DA terminates the "Wheels" program, excess will continue to be reported to TACOM requiring redistribution actions by TACOM. The USAREUR Tactical Wheeled Vehicle Redistribution Plan, Phases I, II and III, was scheduled for completion by the latter part of 1975.

Special Analysis of NET Radios (SPANNER)

(U) A SPANNER Study Group was established by DA on 23 Jan 73 for the purpose of conducting a comprehensive analysis of the Army's requirements, programs and management of Tactical NET Radios (TNR) and related equipment. The study was aimed at reducing the TNR program to minimum essential levels. TNR's, particularly frequency modulated (FM) radios, have proven popular and susceptible to proliferation, primarily because operators require no special training and the radios are effective in any environment.

(U) Objectives of SPANNER were to determine appropriate Authorized Acquisition Objectives (AAO's) for TNR's to sustain approved force during peacetime and wartime periods; make recommendations that would improve the management of TNR's throughout the life cycle and consider the impact of command and control requirements, readiness, maintainability and sustainability concept. The SPANNER Study Group concluded that the radio AAO could be reduced by approximately ten percent. An additional two to four percent decrease was anticipated once Operational Readiness Float and Repair Cycle Float factors are determined and applied. The Revised AAO's will result in cost avoidance of \$39.88M in procurement of new equipment in the 1980 timeframe.

(U) Based on the SPANNER study, approximately 1,386 TOE changes were directed by DA. These changes were processed by USATRADOC and included in Consolidated Change Table Number 300-57 and 300-58. Distribution of the changes was made to proponent commands in September 1974 and March 1975. A DA TAG letter of 30 April 1975, prepared by AMC's Major Items Management Division, in coordination with USAECOM directed the major subordinate commands to expedite turn-in/redistribution of TNR's generated excess. The major subordinate commands were to report monthly to AMC, the status of SPANNER implementation beginning in August 1975.

Committee for Ammunition Logistic Support (CALS)

(U) As a result of the 27 January 1973 Vietnam cease-fire agreement, Department of the Army Allocation Committee Ammunition (DAACA) meetings were discontinued. The DAACA was established in 1966 and served a significant management role in the allocation, distribution, and redistribution of ammunition items in actual or potential short supply. Although the cessation of hostilities in Southeast Asia relieved the strain on ammunition consumption, DA recognized a continuing need for monitoring ammunition distribution. Accordingly, on 8 February 1973, DA requested AMC to establish a system to insure timely ammunition support and to consider semi-annual work group meetings with major commands. The purpose of the meetings would be two-fold: to insure proper controls are maintained over ammunition items in actual or potential short supply; and to provide a means for discussing mutual problem areas and facilitate a free exchange of information.

(U) Ultimately, AMC established the Conventional Ammunition Requirements Distribution Allocation Committee (CARDAC). The initial CARDAC meeting was held at HQ US Army Munitions Command during 25-26 June 1973. Under AMC Chairmanship, representatives from DA, USAREUR, USARPAC, CINCPAC, TRADOC, and FORSCOM allocated critical ammunition items and discussed common problems. At the meeting held in November 1973, the Committee agreed to schedule meetings quarterly. This decision stemmed from the unforecasted impact of increased activity in Vietnam and Cambodia on ammunition supply.

(U) In the November CARDAC meeting, ARMCOM was directed to prepare a draft Army Regulation chartering the Committee which would be known as the Committee for Ammunition Logistic Support. On 23 October 1974, AR 15-16 was published by DA establishing the Department of the Army Committee for Ammunition Logistic Support (CALS) under the control of the Commander, US Army Materiel Command.

Central Ammunition Management Office (CAMO)

(U) With the elimination of HQ USARPAC, effective December 1974, DA directed AMC to assume ammunition logistics support functions in the Pacific Area. These functions involved centralized management and control of ammunition assets geographically located in the WESTPAC area and included requisitioning distribution, surveillance, quality assurance, explosive ordnance disposal, safety, and mobilization planning. On 12 September 1974, DA approved a request from HQ USARPAC to accelerate the transfer date from 31 December 1974 to 1 November 1974. General Order #189 dated 9 October 1974 was published by AMC directing the establishment of the Central Ammunition Management Office - Pacific (CAMO-P) as a field operating activity of ARMCOM to accomplish the USARPAC ammunition functions with an authorized strength of 31 personnel, 8 military, and 23 civilians. On 25 October 1974, AMC authorized ARMCOM (assisted by MICOM) to assume ammunition management responsibilities in the Pacific area on 1 November 1974. Major commands concerned were advised of the changes by AMC on 30 October 1974. The major command in the Pacific (US Army Japan, Eighth US Army, US Army Support Command, Thailand, and FORSCOM units in Hawaii, Guam, and Johnston Island) would continue to execute their normal command responsibilities. The CAMO-P would provide technical advice and assistance as required. No major problems have resulted from the assumption of USARPAC ammunition management functions by the Central Ammunition Management Office, Pacific.

Phase-Out of M114 Series Vehicles.

(U) In June 1974, DA directed AMC to develop distribution plans for M113, M114, and M151 series vehicles in connection with the phase-out of

M114 series vehicles. The M113 and M151's were to replace M114's in the reconnaissance role. The plan that evolved with DA sanction was to retain the best M114A2's (1024) plus sufficient repair parts for POMCUS stocks, the 3d Armored Cavalry Regiment, and a training quantity for the 1st and 4th Mech Divisions, and the 3d Armored Division until sufficient M113A1's become available for replacement. An interim issue of M151 $\frac{1}{4}$ -ton trucks sufficient to purge M114's less the 1024 each M114's mentioned above was programmed.

(U) DA approved these AMC Distribution Plans on 8 November 1974. DA directed distribution be made in accordance with the plan incorporating 320 M113A1's for TOW and 300 M113A1's for FMS cases. Plans for the 16 plus Division Force Requirements were to be continued, but not incorporated in these distribution plans. The DA approval/direction was implemented on 11 November 1974.

(U) The M114 series vehicle phase-out schedule provides for the disposal of the M114/M114A1's immediately. The time phased removal of the retained (1024) M114A2's was to be commensurate with the availability of the replacement M113A1 for input beginning 4th quarter, FY 1975 with projected completion during the 4th quarter FY 1980.

Total Force Implementations

(U) HQDA directed that AMC develop and submit a plan of operation to complete three major actions concerning the US Army Reserve and National Guard including: development and allocation system to assure that the Reserve Components receive a portion of critical items; development of a five year forecast of materiel to be issued to the Reserve Components; and the maintenance of the record of diversions or withdrawals from the Active Army and Reserve Components to other than Army customers.

(U) The AMC conceptual plan covering the above items was submitted to HQDA on 21 November 1974. DA advised AMC on 29 November 1974 that the AMC proposed procedure for establishing records concerning diverted or withdrawn equipment was approved. The initial report, covering the period FY 1970 through FY 1974, was submitted to DA on 27 December 1974. Reports control symbol RCS CSGLD 1757 was assigned for reporting purposes. Action on the first two items was rescinded in June 1975. ¹¹

Excess Tactical Vehicles

(U) By DA direction, an assistance team was organized in June 1975, to resolve the excess vehicle problems at CONUS installations. These

¹¹

(a) Message, DALO-SMS-D, PO817082, October 1974, subject: Implementation of the OSD Total Force Study Group Recommendations.

(b) DA message, DALO-SMS-D, 241452Z June 75.

Problems were caused mostly by excessive time used to process MIMEX offers and to upgrade/repair excess vehicles for redistribution. The objective was to inspect and move excess vehicles from custody of FORSCOM and TRADOC posts, camps and stations. Eleven FORSCOM and TRADOC installations were selected for the inspection, with scheduled visits as follows:

<u>Dates (1975)</u>	<u>Installations</u>
2-13 Jun	Ft. Carson
23 Jun - 3 Jul	Ft. Riley
7-18 Jul	Ft. Hood/Ft. Bragg
28 Jul - 1 Aug	Ft. Bliss
28 Jul - 8 Aug	Ft. Campbell/Ft. Knox
18-22 Aug	Ft. Devens/Indiantown Gap MR
2-19 Sep	Ft. Benning/Ft. Sill/Ft. Rucker

(U) As of 18 July 1975, inspections were conducted at Ft. Carson, Ft. Riley, Ft. Hood and Ft. Bragg with the following results:

	<u>Ft. Carson</u>	<u>Ft. Riley</u>	<u>Ft. Hood</u>	<u>Ft. Bragg</u>	<u>Total</u>
Excess Vehicles Inspected	458	355	493	1682	2988
Offered/Accepted by NGB	129	243	234	1039	1645
FORSCOM Requirement	0	87	28	110	225
MIMEX Candidates	43	1	109	383	536
Cannibalization/PDO	286	24	122	150	582

Coordination and follow-up actions were in process with and among FORSCOM, TRADOC, NGB, and AMC. The Assistance Team planned to continue inspections until all selected CONUS installations are visited/inspected and the excess vehicle problems are resolved.

Major Item Distribution Plan (MIDP)

(U) During the period June 1974 through November 1974, the major commands and the AMC subordinate commands indicated the MIDP was not being used as an effective management document. Reasons given were as follows: the period from initiation of the MIDP cycle to publication of the book was too long; the data was at Standard Study Number level, but management was at Line Item Number/National Stock Number level; and the AMC subordinate command adjustments to the Worldwide Asset Position were not reconciled with the major commands prior to publication of the MIDP.

(U) On 19-20 November 1974, a MIDP Improvement Conference was held at USAMIDA and attended by DA/AMC/MIDA personnel. Based upon conference findings on 17 December 1974, HQDA directed AMC to establish an ad hoc

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study group to reassess the MIDP system. On 31 January 1975, AMC requested that HQDA, the major commands and the AMC subordinate commands and agencies review and provide comments regarding Chapters 4, 5 and 6 of AR 700-120, Materiel Distribution Management, as well as other portions of the MIDP system deemed appropriate. This data was received by 15 March 1975.

(U) Based on an analysis of the data, on 19 June 1975, follow-on instructions were dispatched to all concerned outlining proposed system changes. Comments were to be submitted by 7 July 1975. It was planned to review and evaluate these comments with a view to incorporating them into system improvement recommendations to be presented to HQDA for approval. The presentation was scheduled for 1 August 1975.

AN/PRC-25/77 Radio Ad Hoc Working Group

(U) In June 1975, DA directed AMC to provide members to participate in an ad hoc working group at DA. The purpose of the ad hoc working group was to assure that the procurement/distribution problems associated with the AN/PRC-25/77 family of radios were satisfactorily resolved. DA had asked that a working group of action officers from DALO, DAMA, DAMO, DAAR NGB and AMC be established which could expeditiously coordinate and implement solutions/recommendations to the following problems: an audit trail between the 157,000 radios procured and the 62,000 assets available was required; quantities of the ancillary components and installation kits needed to release current depot assets and to complete the FY 1972 sets currently due in was required; and a plan for procurement complete with guidelines for the committee was to be determined.

Termination of Vietnam/Cambodia Support Programs

(U) As the supply support pipelines for Vietnam and Cambodia were terminated, numerous major items were reclaimed for return to Army inventory. The following repair and return (R & R) vehicles were in AMC overseas depots:

<u>Nomenclature</u>	<u>Model</u>	<u>Qty</u>	<u>Location</u>
Tank Combat	M48A3	27	ANAD
Carrier APC	M113	43	TMA
Carrier APC	M113A1	1	TMA
Truck, Forklift	6,000 LB RT	58	TMA
Truck, Forklift	10,000 LB RT	2	TMA
Tractor	D8	1	TMA
Tractor F/T Med	D7E	1	TMA
Tractor	TD-20	1	TMA
Tractor F/T Med	D6C	1	TMA

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<u>Nomenclature</u>	<u>Model</u>	<u>Qty</u>	<u>Location</u>
Truck 2½T	M35A2	42	TMA
Mortar Carrier	MI25A1	3	TMA
Mortar Carrier	MI06	2	TMA
Test Set Teletypewriter	AN/GGM-18	1	SAGAMI
Sweep Generator	SG-987/U	2	SAGAMI
Counter Elec Digital	AN/USM-207	1	SAGAMI
Generator Function	SG-747/U	1	SAGAMI
Analyzer Spec	TS-3150/U	1	SAGAMI
Analyzer Spec	TS-3170/U	1	SAGAMI
Helicopter	UH1H	31	CCAD

The items located at ANAD and TMA to be picked up as AMC Depot stocks.

(U) The following vehicles were frustrated enroute:

<u>Nomenclature</u>	<u>Model</u>	<u>Qty</u>	<u>Location</u>
105mm Howitzer	MI01	3	Travis AB*
105mm Howitzer	MI01	21	SAAD *
105mm Howitzer	MI01	4	Kokethiem
APC	MI13	37	Mobile
Recoilless Rifles		16	Clarke AB
60mm Mortar		65	Clarke AB
Radio	AN/PRC-25	240	Clarke AB
Recovery Vehicle	XM 806	2	Yokohama
Carrier CP	M477A1	1	Yokohama
Carrier CGO	M548	7	Yokohama

*Were redistributed to fill Project 16-76 requirements.

(U) The following items were on the SS American Peer, Voyage Number F-7047, POD was to have been Newport, RVN. The vessel was diverted to Oakland, California.

<u>Nomenclature</u>	<u>Model</u>	<u>Qty</u>
Truck, Dump 5T	M51A2	21
Truck, Cargo 2½T	M35A2	15
Carrier, APC	MI13	13
Flamethrower	MI32	1
Forklift, Rough Terrain	6,000 lb	17
Forklift, Rough Terrain	10,000 lb	2

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(U) The following Army Aircraft were extracted from ARVN and Cambodia:

<u>Nomenclature</u>	<u>Model</u>	<u>Qty</u>	<u>Location</u>
Helicopter	UH-1H	45	Guam
Helicopter	CH-47	3	Guam
Helicopter	UH-1H	7	Don Muang
Helicopter	UH-1H	42	NAS, CUBI PT
Helicopter	CH-47	1	NAS, CUBI PT
Helicopter	UH-1H	1	Taipei
Fixed Wing	O-1	1	Guam
Fixed Wing	O-1	12	U-TAPAO/TAKHLI
Fixed Wing	U-6	1	U-TAPAO/TAKHLI

Payback of 9DD/9FF Shipments from USAREUR

(C) During the Middle East crisis, October 1973 (Project Codes 9DD/9FF) equipment and ammunition were withdrawn from USAREUR stocks and shipped immediately to satisfy requirements. The items furnished by Europe were either from excess stocks or prepositioned war reserves. These items were withdrawn from Europe according to a plan for payback. The NICPs have completed the payback of items with the exception of three TACOM major items and five ARMCOM ammunition items.

(U) Beginning in February 1975, the Tank M60 was to be delivered 293 each in CY 1975 with the balance of 86 each during CY 76. The Carrier APC M113A1 was to be delivered 103 each in November 1975, 98 each in December 1975, 121 each in January 1976, and 178 each in February 1976. The Truck Cargo 5-Ton M54 was to be delivered from in-theater excess and/or procurement during FY 1980-1981. The delivery quantity would be determined after completion of the USAREUR "WHEELS" study anticipated for the latter part of 1975.

(U) In December 1974, ARMCOM informed USAREUR, DTG 191458Z Dec 74, that since no requisitions had been received for five ammunition items it was assumed that no payback was desired.¹² However, at the close of FY 1975, NICP assets were being released to satisfy ammunition requirements as they arose.

Worldwide Weapons Density List (WWDL)

(U) DA directed ACM to prepare a Worldwide Weapons Density List (WWDL) by project code as shown in the AR 11-11 computations. The Major Item Data Agency (MIDA) was then tasked to develop an automated

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Message, DTG 191458Z Dec 74

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WWDL in support of the conventional ammunition logistical computations and reports. MIDA prepared a draft WWDL printout as of 1 October 1974 which was not sufficiently accurate since the AR 11-11 Structure and Composition System (SACS) file was two years old. MIDA was then given approval on their request to use the December 1974 Major Item Distribution Plan SACS file and a second WWDL draft was prepared during April/June 1975 which was then reviewed by the major commands and other concerned customers. The review included data content, display design and level of distribution of the report. Comments were furnished MIDA for that analysis.

(U) The WWDL was scheduled as an agenda item for discussion with all concerned at the Conventional Ammunition Logistics Support Conference (CALS) during July 1975. It was visualized that the CALS conference at the Armament Command would attempt to complete the WWDL for dissemination.

Main Battle Tank (MBT) Distribution

(U) The long range Main Battle Tank Distribution Plan was released from publication on 9 June 1975 by TACOM to show current and forecasted changes in distribution of tanks in the FY 1975 through the FY 1980 Funded Delivery Period (FDP). A change of major significance was the increase in forecasted distribution of 105mm Gun Diesel-powered tanks at an accelerated rate. This was primarily a result of the Anniston Army Depot expedited production of M48A5 tanks from the overhaul/conversion of 90mm Gun, M48 series tanks. The plan covers all aspects of distribution and redistribution to meet changing authorizations and the DA objectives to modernize the assets in the hands of troops.

(U) Through product improvement of M60 series tanks, the introduction of new tanks from procurement and the M48A5's from the overhaul and conversion program; the distribution plan shows the progressive improvement of the overall MBT fleet readiness posture. Main Battle Tank distribution planning requires the more modern 105mm Gun tanks for both the US Active Army and Reserve Components with a corresponding phase-out of 90mm Gun gasoline-powered tanks.

Transfer of Aviation Distribution Mission to AMC

(U) As a result of a DA reorganization, DA indicated that AMC would conduct future WWALC's and would manage the distribution of aircraft. Such distribution by AMC will be made in accordance with programs developed at the annual World-Wide Aviation Logistics Conference (WWALC) and priorities and allocations established by DA.¹³

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Readiness Improvement Programs

(U) Worldwide. The logistics readiness posture of Active and Reserve Component Army units worldwide continued to be a major concern of DA and AMC during this fiscal year. DA established new and higher goals for FY 1975 for the Equipment on Hand (EOH) and Equipment Status (ES) AR 220-1 readiness indicators of all Army units. These goals included maintaining the EOH and ES of all major combat units equal to their Authorized Level of Organization (ALO). The Readiness Improvement Program continued to emphasize the early identification of problems impacting on unit materiel readiness and the application of intensive management techniques for prompt resolution. Reporting procedures and individual readiness improvement programs for Active Army and Reserve Components are continually being reviewed to enhance attainment of the FY 1975 unit logistics readiness goals.

(U) Although initiated by DA in mid-FY 1974, the first half of FY 1975 marked the full implementation and refinement of the uniform reporting procedure for major commands and individual reporting units. The system, "Materiel Assistance Designated (MAD) Report," consists of three parts: Part I - Equipment on Hand (EOH) shortages (major RICC-1 items); Part II - Equipment Status (ES) Red Condition (NORS repair parts/components); and Part III - Equipment Status (ES) Red Short (major item shortages not included in MAD Part I). Commanders of units with an EOH less than their ALO must submit Part I as of the 20th of the even-numbered months. Units with an ES less than ALO must submit Parts II and III as of the 20th of each odd-numbered month. This grass-roots identification of readiness problem areas was proving very effective at improving and maintaining the quantity and condition of equipment required by units to meet their combat mission. The reporting procedures for the submission of MAD reports have been published in AR 700-98, dated 25 June 1975, jointly developed by DA and AMC.

(U) As of 20 June 1975, 797 units of the Army's 877 reporting units worldwide had achieved a readiness EOH position equal to their assigned ALO. This represented an attainment of a 91 percent fill. Included were major combat units as well as company and battalion-sized separate units. The overall attainment rate for EOH was approaching the DA established goal of 95 percent. The ES attainment of 80 percent as of 20 June 1975 was not as impressive, but was approaching the DA established goal of 85 percent. The ES measurement reflected Not Operationally Ready, Supply (NORS) and Not Operationally Ready, Maintenance (NORM) conditions at all reporting units. Progress was being made in this category, as well as EOH. Actions to reach and sustain the high state of logistics readiness demanded by DA was a continuing program.

(U) CONUS. All CONUS based Strategic Army Forces (STRAF) units have maintained their assigned Authorized Level of Organization (ALO) in

Equipment on Hand (EOH) and have met the current DA goal of 100 percent. Non-divisional STRAF I and II support units, except Army Security Agency (ASA) and Medical units, achieved and maintained a record level in EOH as a result of continuing intensive management by AMC. As a result of two In-Process Reviews (IPRs) by DA, AMC, and ASA, previous organizational relationships adversely affecting the readiness posture of CONUS Army Security Agency units were resolved. Action was also in process to correct requisitioning problems confronting USAREUR based units. Present ASA unit readiness problems stem mostly from unit activation and reorganization actions with Effective Dates (E-Dates) not providing sufficient time for the logistic system to respond to requisitioned requirements. Intensive management was established for Combat Support Medical units which had failed to achieve their assigned Authorized Level of Organization (ALO). AMC managed items which were authorized but not requisitioned, were brought to the attention of FORSCOM and TRADOC. Corrective action should result in marked improvement during FY 1976.

(U) USAREUR. AMC continued participating with USAREUR in a DA plan to improve and maintain the assigned readiness posture of Active Army units and War Reserve Stock Accounts including REFORGER, POMCUS, 2+10, Theater War Reserves, and other project stocks in the European Theater. To manage this task, visibility of all major item shortages was maintained and expeditious fill action to satisfy shortages was taken whenever possible. All major combat units in USAREUR maintained an Equipment on Hand (EOH) equal to their Authorized Level of Organization (ALO) through the first 11 months of FY 1975. Due to MTOE changes during June, two combat units were undergoing a temporary EOH reduction at the close of the fiscal year. As of 20 June 1975, 329 units had met their EOH criteria and 267 units had attained their ES objective out of a total of 352 reporting units. This represented an achievement rate of 92 percent and 75 percent, respectively, even though many company and battalion-sized individual Army units were currently undergoing conversion to "H" Series MTOEs."

(U) Korea. There were 9 Army units in Korea included in the Eighth US Army Readiness Improvement Program. During the month of May 1975, 73 units were at or above their ALO in EOH. The eight units below the prescribed ALO in EOH were expected to reach their readiness posture by 30 November 1975. The 2d Infantry Division had been below the prescribed ALO since February 1975. Because of organizational changes and an increase in assigned ALO, the Division was not expected to reach the assigned ALO in EOH until November 1975.

(U) Alaska. There were fourteen active Army units in Alaska included in the USARAL Readiness Improvement Program. As of 30 May 1975, 13 units were at or above their ALO in EOH. One unit was below because of authorization document changes.

(U) Canal Zone. The Readiness Improvement Program for units in the Panama Canal Zone included eight Active Army units, one of which was designated a major combat unit, the 193d Infantry Brigade. All units maintained an Equipment on Hand (EOH) equal to or greater than Authorized Level of Organization (ALO) during the fiscal year. The low density of reportable items used in computing the Equipment Status (ES) readiness indicators of several reporting units caused large fluctuations in their ES ratings; however, mission effectiveness of units involved was not adversely affected.

(U) Reserve Components. In keeping with the DOD policy that Reserve Components (RC) units be brought to a realistic and effective level of readiness commensurate with their role in the Army Force Structure, DA expanded the existing Logistics Readiness Improvement Program (RIP) to include selected US Army Reserve (USAR) and Army National Guard (ARNG) combat and combat support units. As a part of the RIP, in September 1974, DA officially implemented the Materiel Assistance Designated (MAD) reporting system, identifying major item shortages, on a quarterly basis for RC units. The RC units consist of FAD III Early Deploying (D to D+30), Round Out and Affiliated units. In the first cycle, 20 January 1975, 78 separate MAD reports were received from 222 units. The second cycle (20 May 75) resulted in the submission of 78 individual reports from 248 units. For reserve component units, DA established an Equipment on Hand Readiness Condition (EOH REDCON) goal of C-3, 70 percent to 79 percent equipment fill. During the FY 1975, the goal attainment rate for FAD III RC units increased significantly from 47 percent to 67 percent.

Management of Secondary Items

ALPHA (AMC Logistics Program Hardcore Automated)

(U) ALPHA is an automated logistics management system which includes 25 major document files involving the basic logistics functions of Procurement and Production, Supply Management, Stock Control, Cataloging, Provisioning and Financial Management. Because of the complexity of the system, ALPHA is being implemented by Phases A, B, C and D.

(U) Phase A contains the Provisioning and Cataloging Systems and files as well as three Supply Management files. These are the Materiel Management Decision File, the Program Data File and the ZAB table containing data required in the computation of economic order quantities and variable safety levels. These Supply Management files are available for use, but have no specific application until Phase C. In addition, Phase A contains the ALPHA standard reject control system, the AUTODIN interface, a standard output control system, and continued operation of the standard Budget Stratification System. Phase B includes Maintenance

Systems which involve the inclusion of the maintenance program data in the Federal Stock Number Master Data Record (FSNMDR), processing the Overhaul Consumption Data, and the Parts Explosion process in the preparation of Depot Maintenance Parts Requirement List (DMPRL). Phase C comprises the largest phase of the implementation. This phase contains the major segments of the Supply Management, Financial Inventory Accounting, Procurement and Production, Stock Control, the Financial Management processes, Physical Inventory, Asset Stratification, International Logistics, Mobilization Computation, and the procurement breakout data in FSNMDR. Phase D includes those processes that were recognized as candidates for other follow on applications. The objective of Phase D is to reduce the size of the problem potential in initial operation of Phase C of ALPHA.

(U) By the end of FY 1975, three commands (MICOM, AVSCOM, and TROSCOM) had completely implemented all phases of ALPHA. At the same time, using AVSCOM as an actual working model, the Army Logistics Systems Management Agency and AMC have been working to improve and refine the ALPHA system. One of the major concerns has been one of resource allocation, i.e., finding enough computer/manhour time at ALMSA to accomplish all the desired system changes and refinements. This has been an on-going project that has required close coordination between ALMSA and AMC. The present implementation schedule for ALPHA is:

	<u>PHASE A</u>	<u>PHASE B</u>	<u>PHASE C/D</u>
TACOM	Complete	Complete	June 1976
ECOM	Complete	Complete	September 1975
ARMCOM	Complete	Complete	December 1975

Inflation.

(U) Anticipated inflation could not be included in stock fund and consumer budgets by OMB direction. Therefore, the buying power of commodity commands and consumers was greatly reduced. Thus, it became necessary to request additional funding from OSD/OMB several times during the year. OSD/OMB were responsive to Army requests and a high percentage of the funds requested were authorized. However, this amounted to funding "after the fact" and was not entirely satisfactory. To provide adequate funding in advance of continually rising prices, AMC, in several actions, requested relief from DA on the OMB restriction but no relief was granted during FY 1975. For FY 1976, however, some relief to the inflation problem was provided during FY 1975 by OSD authorizing a 15% surcharge. Because of the DIDS Brownout and inflation, stock fund case, DOD wide, reached a precarious position during FY 1975. To remedy this, OSD directed that stock fund prices be increased by a 15% surcharge during FY 1976 until such time as the

stock fund cash position returned to an acceptable level. Consumer funding was being increased in a like amount to cover this surcharge. Although the 15% surcharge was to restore cash to the stock fund, it has had the corollary benefit of providing protection against inflation during FY 1976.

(U) The buying power of consumer funds was likewise impacted by inflation during FY 1975. Until these funds were augmented during the last half of the year, demands upon the Army Stock Fund were reduced. In an attempt to partially offset the adverse effects of inflation in future years, AMC has initiated a program to assist in the development of retail stock fund and consumer fund budgets. This program provides the major commands with advance information on price changes and other related budget data.

(U) Another accomplishment was the development of a standardized narrative format for secondary items budgets (stock fund and PEMA secondary). This would result in greater uniformity and greater comprehension by all in preparing and reviewing secondary items budgets. A time sequenced listing of all activities that occur annually during the secondary item (stock fund and PEMA secondary) budget process was also developed. This schedule or roadmap improves understanding of the budget process and assists in planning workload for impending budgetary actions.

Revision of Supply Policy

(U) Requirements Determination Time (RDT). RDT is the time it takes managers at NICPs to prepare a supply control study and submit a request for procurement action. This time was not previously recognized in OSD directives. As a result of Directorate of Supply initiated action, OSD agreed to recognize and fund RDT which amounts to an additional 15 days for high dollar value items and 7 days for all others. RDT is an element of the Administrative Lead Time (ALT) and is not broken out separately in the stratification program. However, this does not diminish the importance of the recognition of RDT as a valid time frame in requirements computations. Approval from OSD was obtained to add RDT quantity or the quantity of an item required on hand to sustain pipeline issues between that time when an item reaches its reorder point and the time a procurement work directive is generated. This policy change was disseminated in Change 12 to AR 710-1 and resulted in increased stockage levels. These increased levels more accurately depicted true supply requirements while they helped to increase AMC's stock availability.

(U) Annual Procurement Program for Secondary Items. This program came about as an economy measure. High dollar value items were normally

procured on a quarterly basis. However, the Directorate for Supply initiated action and obtained OSD approval to procure stable demand items having \$100,000 annual procurement value or greater on a once-a-year basis. This annual procurement reduces procurement costs and results in a lower unit cost per item in an inflationary economy. However, it also places more responsibility at the NICP for funds control, as improper scheduling of deliveries and disbursements would aggravate the cash flow problem.

(U) Army Stock Fund. Another very significant change in policy was a recently granted authority for AMC to transfer funds between National Inventory Control Point (NICP) subdivisions of the Army Stock Fund. While there are restrictions on this transfer authority, it does allow AMC more flexibility in the management of the stock fund program than previously allowed. Although this authority was obtained as a result of efforts in FY 1975, it will take effect in FY 1976. The authority to transfer funds in FY 1976 will help alleviate the impact of inflation and cash flow experienced this year.

(U) Operational Readiness Oriented Supply System (OROSS). Cost effectiveness was added to OROSS effective 30 June 1974 with commodity commands implementing this policy change concurrently with the proliferation of ALPHA through Phases C and D into FY 1977. Identified as OROSS Enhanced the new policy provided the following: addition of a cost differential (cost to stock minus cost to not stock) stockage model that based the stockage decision on all appropriate inventory management variables (leadtimes, probability of demand, cost of back-order, holding costs, demands, etc.) instead of just demand frequency data, addition of a stockage parameter that bases the size of the wholesale stockage list on desired operational readiness goals of selected weapon systems - the higher the readiness goal, the more items stocked; implementation of DODI 4140.39 (procurement Cycles and Safety Levels for Secondary Items) which increased safety levels on the majority of the low dollar items while reducing safety level protection on the few remaining high dollar items to improve overall parts availability and reduce investment costs; and implementation of the Supply Performance Analyzer in April 1975 to forecast parts availability, the average number of expected backers, and the average number of days customers may have to wait for materiel for any specific amount of dollars invested in inventory.¹⁴

(U) Production Lead Time (PLT) and Unit Prices. The procedure for computing production lead time (PLT) and unit prices in ALPHA was changed during May 1975 to use the last representative action including use of lead times and prices specified at the time contracts are signed. Prior to this change, lead times were computed by averaging up to 24 months of data and prices by averaging up to 12 months of data. The new computation policy provides more representative requirements through

¹⁴Change 12, Chapter 4, AR 710-1, 30 June 1974.

early recognition of increasing or decreasing trends in the requirements and budget base.

(U) Requirements Determination and Execution System. The Requirements Determination and Execution System embodied the consolidation of the stratification and supply control study into a single automated system for managing secondary items. This new system enabled AMC Commodity Commands to plan, program, budget and execute programs from the same system. This was accomplished by performing requirements determination, as performed in the old supply control study system, then using the simulation programs of the old stratification system to project future requirements, asset positions, and required supply actions necessary to keep the item in a balanced supply position. The final step necessary to provide required data was the stratification of assets to requirements.

(U) The development and implementation of this system was planned for two phases, a short range and a long range. Short range consisted of suppression of outputs from the two old systems that provided duplicate data, along with minor reprogramming to eliminate discrepancies in data. Long range would consist of streamlining system processing and system enhancements. Short range implementation began in November 1974 with AVSCOM, MICOM, and TROSCOM implementing the system at the same time. The remaining commands plan to implement the new system upon their conversion to the Commodity Command Standard System (CCSS).

(U) The automated Logistics Management Systems Agency (ALMSA) was designing and programming the long range system at the end of FY 1975. In addition to streamlining system processing, several enhancement projects were being added to the system. Among these projects were the automated Buy Back to the Requirements Objective and Eliminate Backorders Report (EBOR). Buy Back to the RO would reduce computer processing, paper output and item manager workload required for managing low dollar value items. EBOR would provide a single standard backorders report to provide early warning of problem items, while reducing the number of backorder reports necessary for operational and reporting requirements. The AMC goal for implementing the long range phase was December 1975.

(U) Return of Unserviceable Assets. The continuing failure to return unserviceable assets for rebuild and repair posed a serious threat for customer demand satisfaction and the readiness posture of the Army during FY 1975. The rate of unserviceable returns ranges from 25% to 90%. One major problem was the failure to motivate personnel regarding the performance of the timely return of reparable unserviceable secondary items. Because of constraints placed on the budget by Congress, increased emphasis was being placed on the rebuild of items to substitute for new procurements. To assist in improvement of return

rates, new procedures and policies were established for automatically returning selected Army stock fund and appropriation financed recoverable secondary items to CONUS depots. Disposition instructions from commodity managers would not be required in the new procedure prescribed by Change 13, Section III, Chapter 3, AR 710-1.

(U) Integrated Management of Nonconsumable Items. Under the aegis of the Joint Logistics Commanders, the Joint Policy Coordinating Group for Defense Integrated Materiel Management (JPCG/DIMM) inaugurated a joint interservice program to "Eliminate Duplicate Wholesale Inventory Management of Multi-Used Nonconsumable Items." This was in line with the DOD "one time/one manager" concept which culminated in integrated management assignments for consumable commodity oriented items and weapon system oriented items. The Nonconsumable Items Subgroup (NIS) of the JPCG/DIMM has been engaged in the development of program procedures, the preparation of an operational publication and regulatory directives, and techniques for the selection of Integrated Materiel Managers (IMM). The AMC Directorate of Supply provides the DA representation on the JPCG/DIMM and the NIS.

(U) Within the context of the program, a nonconsumable item is a national stock numbered end item, depot reparable component, or an item managed as a consumable by one service and reparable by another. A multi-used item is one adopted by two or more military services. The program is being accomplished in two phases. Phase I called for the selection of a single item manager for each end item and depot reparable component who would be assigned the functional responsibilities for cataloging, procurement, disposal, and, in most cases, depot level maintenance. During the past year, approximately 30% of the multi-used items were identified to an IMM, the remaining items were tentatively assigned and awaiting agreements or resolution between the cognizant services. An operational manual was completed in late June and was being staffed by the services. The target date for implementation of Phase I was set for 30 June 1976. Phase II called for the extension of IMM responsibility for depot reparable components only to total DOD wholesale logistics support. In addition to the four basic functions cited above, this would include the responsibility for requirements determination, budgeting, funding and scheduling depot repairs; and budgeting, funding, storage and issue of wholesale assets. Special procedures were being developed for credit exchange, critical item management and wartime surge requirements. The plan for achieving this objective was developed and was undergoing staffing within each service at the end of FY 1975. The target completion date was under consideration.

(U) Basic Issue Items and Components of End Items. The command was experiencing serious problems regarding availability of components of end items (COEI) and basic issue items (BII) required for completion of major end items. Inventories conducted by Anniston Army Depot upon

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turn-in of end items from the field revealed major shortages of fire control items in particular. These shortages represented unforecasted requirements for which procurement lead times exceeded available time in overhaul and/or conversion programs. Numerous requests were dispatched worldwide from DA and AMC placing major upon return of these items. One such request was forwarded on 7 April 1975, from the Vice Chief of Staff with a follow-up request from DA DCSLOG on 8 April 1975, listing items which required special emphasis. Response was very good. Reported returns equaled 1,925 with a total value of approximately one million dollars. Upon direction by DA, Anniston Army Depot was making a monthly report of receipt of all M48/M60 series tanks having COEI/BII shortages. AMC was monitoring this report through the US Army Tank-Automotive Command. In addition, notification was given to all applicable major Army commanders. Continued emphasis and monitorship was planned to assure that all personnel were made aware of the problem.

Major Programs

(U) AMCD, ASF/AMP and POL

(\$ in millions)

	<u>Initial Apport</u>	<u>Reapport Request</u>	<u>Mid-Year Review</u>	<u>Final Apport</u>
AVSCOM	123.3	132.2	145.2	145.2
ECOM	48.0	80.0	98.3	95.8
MICOM	37.1	59.6	61.3	61.3
TACOM	208.1	302.7	338.2	344.6
TROSCOM	46.5	56.2	78.9	76.9
ARMCOM	122.7	158.6	186.1	186.1
SUB-TOTAL				
WHOLESALE	585.7	789.3	908.0	090.9
MAP/MOB	101.9	247.1	249.9	120.0
TOTAL AMCD	687.6	1036.4	1157.9	1029.9

(U) PEMA Secondary Items

	<u>Initial Apport.</u>	<u>Reapport.</u>	<u>Final Apport.</u>
	(\$ in millions)		
Aircraft	32.0	38.6	33.7
Missiles	53.1	64.3	76.7
Ammo	.7	.6	.5
Weapons & Tracked			
Combat Vehicles:	Activity 1	27.5	30.2
	Activity 2	6.3	5.4
Other Procurement:	Activity 1	14.7	17.7
	Activity 2	23.5	24.3
	Activity 3	9.6	8.9
TOTAL	167.4	190.0	217.1

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Task Force 16-76

Major Events

(U) In August of 1974, the Army Chief of Staff initiated action to comply with requirements of the NUNN Amendment to the United States Appropriations Act of 1975, and a Secretary of Defense Program Decision Memorandum addressing the conversion of combat support forces of the US Army in Europe (USAREUR) to increased levels of combat force. Department of Army was concurrently directed to examine the feasibility of attaining a 16-division force structure by FY 1978. This effort was designated as Project 16-78. Analyses identified sufficient manpower spaces for the proposed increased combat force levels, thereby re-directing the thrust of this effort to the provision of funds and materiel to equip a sixteen-division force. Project 16-76 was established to determine the feasibility of accelerating the build-up of the 16-Division force prior to the end of FY 1976. Materiel requirements were to be identified and sources of assets determined to meet the needs of the deployment of two mechanized brigades (one in FY 1975 and one in FY 1976) to Europe and the activation of major elements of three Army Divisions (the 5th Infantry Division (MECH), and the 7th and 24th Infantry Divisions) during FY 1975 - FY 1977 in the Continental United States (CONUS).

(C) Subsequent to the establishment of Project 16-76 by the Department of the Army (DA), the AMC established a special office designated as Task Force 16-76 within the Directorate for Supply to function as the AMC focal point for all actions pertaining to Project 16-76. This Task Force conducted studies to determine the Army Materiel Command's capability to equip the new Combat Force Structure during time frames required to meet specified Authorized Levels of Organization (ALO). The initial study provided time-phased requirements for Reportable Items Commodity Code 1 (RICC-1) items, and their projected availability, to the Department of the Army (DA). Certain ground rules were established by DA for asset sources and the application of priorities. Of significance was the use of Pre-positioned Materiel Configured to Unit Sets (POMCUS) to fill requirements of forces deploying to Europe and the redistribution of residual POMCUS stocks for CONUS activations. Foreign Military Sales (FMS) cases, once approved, were to be considered as having precedence of 16-76 requirements. Within this guidance, a time-phased requirement for 352 RICC-1 equipment items was prepared to which was applied the latest asset availability data from each respective National Inventory Control Point (NICP). No additional funding was provided for equipping the FY 1975 increment of Project 16-76 units. Projected asset availability was based on available inventory and funding. Available assets were reserved by purpose coding for project 16-76 deployments and new

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activations. This capability study was provided to DA on 8 November 1974 along with the AMC position regarding ability to equip newly activated units to their assigned ALO within the required time.

(C) An additional study was performed based on an assumption that POMCUS stocks would be unavailable for 16-76 CONUS activations. With the elimination of POMCUS stocks as an asset source, it was determined that 63 company and battalion size units would not attain their ALO within the specified time. This information was provided to DA on 18 December 1974. Unilaterally, Task Force 16-76 studies the possible return of specific line items on a selective basis as a means of equipping CONUS units to an acceptable ALO without access to all POMCUS assets. This analysis projected that 44 of the 63 units, previously below ALO without POMCUS assets, could be brought to ALO-2, within the specified time frame, by the return of 19 specific line items from POMCUS. RICC-2 items of equipment were also analyzed which provided data projecting significant shortages in electronic equipments, tool sets, and other essential support equipment.

(C) When no other source of supply was available, procurement and overhaul programs were considered as equipment sources. Assets from within these programs were developed as unfunded requirements. Unfunded requirements increased significantly with the withdrawal of POMCUS. "To Accompany Troops" (TAT) requirements were identified for issue to units deploying to Europe from Ft. Hood and assets were identified for replacement of items issued from Ft. Hood, utilizing resource availability data developed by Task Force 16-76.

(C) Approval for FY 1975 activations was received in October 1974, and FY 1976 activations were approved except for divisional headquarters companies, divisional artillery headquarters batteries and divisional Support Command headquarters companies of the 5th and 24th Infantry Divisions, on 13 June 1975. General Orders Authority for those latter units was deferred pending Congressional approval.

(C) Army Materiel Command assessments concerning equipping the 16-division combat force, and Army Chief of Staff (CSA) inquiries regarding the status of War Reserves and equipment on hand in Reserve Components, led to concern over the ability of the US Army to field a combat ready, 24-division combat force 16 Active and 8 Reserve). An Army Chief of Staff Memorandum (CSM) directed an analyses of capabilities to move to a 24-division force prior to FY 1977. As a result of these actions, Task Force 16-76 was tasked to develop a list of items of equipment critical to the 24-division force structure. Task Force 16-76 developed a list of 124 critical RICC-1 and RICC-2 items of equipment, based upon the three active Army divisions capability studies and support requirements for reserve components. This study was accepted by the Deputy Chief of Staff for Operations (DCSOPS)

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and the Deputy Chief of Staff for Logistics (DCSLOG) as those critical items affecting the attainment of a 24-Division Combat Force. The force structure provided by DCSOP/DCSLOG included the equivalent of 16 Active Army, 18 Reserve and 8 National Guard Divisions.

(U) In April and May, 1975, In Process Reviews (IPRs) were held for each of the activating CONUS divisions (5th Infantry, 7th Infantry and 24th Infantry) to identify problems and coordinate solutions and alternative measures. Intensive management was applied to those shortage items identified as minimum essential equipment for training. In June 1975, a Long Lead Times Items Conference was held at Headquarters, US Army Materiel Command. Items discussed were those RICC-1 and RICC-2 items with projected delivery dates one FY or more later than required. Representatives of the 5th Infantry Division (MECH) of Ft. Polk, Louisiana, the 7th Infantry Division of Ft. Ord, California, the 24th Infantry Division of Ft. Stewart, Georgia, US Army Forces Command (FORSCOM), and AMC NICPs attended the Long Lead Times Conference (LLTIC). These representatives met with the staff of Task Force 16-76 and discussed each critical item of materiel affecting readiness of the activating divisions, identified alternative items where possible and established reasonably accurate delivery dates for each item based upon the best available data and experience at the conference.

(C) The Major Item Data Agency (MIDA) was requested to provide Task Force 16-76 with a "building block" data program, covering all active and reserve component units, constructed from the separate company/battalion levels of organization to identify Modified Table of Equipment (MTOE) materiel requirements, apply "on hand" assets and determine equipment shortages within these units. Where shortages appeared, a projection of asset availability to fill those shortages was computed. This activity was still in process through July of 1975. When completed, this product would constitute the core of a capability study for meeting equipment requirements of the total force.

Summary of Activities

(C) During FY 1975, Task Force 16-76 developed capability studies for the Department of the Army, identifying materiel needs, determining potential shortages, exploring alternate supply sources, and examining possible substitute equipments where prime item was unavailable. Also, Task Force 16-76 played a key role in the upgrading of POMCUS "REFORGER" stocks for issue to the deploying brigade in FY 1975 in addition to providing the Table of Organization and Equipment (TOE) requirements of the 16-division force structure to each Army Materiel Command National Inventory Control Point (NICP) to enable those commands to insure asset availability for future requirements.

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(U) Task Force 16-76 initiated a detailed worldwide war reserve asset report to provide DA and AMC with up-to-date asset data and intensively managed items of equipment on a line-by-line basis, to insure that equipment was made available to activating units of the 16-division force in time frames that would permit training of recently organized forces.

(U) The Long Lead Times Items Conference (LLTIC) held on 9-12 June 1975 enabled activating divisions representatives to work with the NICPs, and Task force 16-76, in identifying and solving critical items shortages or providing data which projected availability in reasonable time frames to achieve an acceptable readiness level for the new force. One hundred and eighty-seven (187) items were discussed. One hundred and thirty-two (132) items were determined to be available during acceptable time frames from AMC resources through expeditious supply actions and use of substitute items. Four (4) items were identified as being potentially available through FORSCOM redistribution. Twenty-two (22) items required DA level decisions for availability from dedicated Reserve Component assets, issue out of priority sequence, or backhaul from POMCUS. Twenty (20) items with projected delivery in FY 1978 and later were recommended for suspension from MTOE authorization. These were primarily items still in development and initial procurement stages. Nine (9) items could not be approved as they were already in DA approved distribution plans.

(C) As of 30 June 1975, the FY 1975 Project 16-76 activated units had received approximately 65 percent of their authorized RICC-1 items. Major shortages projected in the original capability studies did in fact materialize as forecast. These were primarily Chaparral missile and related equipment, communications-electronic equipment, shop equipment, and tool sets/kits. However, many of these shortages were being satisfied through expedited supply actions.

(C) Task Force 16-76 was instrumental in assuring that the 2d Armored Division, Ft. Hood, Texas, did not fall below its assigned EOH REDCON subsequent to the deployment of TAT equipment in support of Brigade 75. Through expeditious replacement action, the 2d Armored Division remained nine (9) line items above C-1, instead of sixteen (16) lines below C-1 as projected by the Division.

(U) Task Force 16-76 served as the interfacing agency between AMC and GSA, DSA for coordinating the delivery of common Table of Allowance (CTA) equipment and other DSA/GSA managed commodities required by the deploying/activating units.

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CHAPTER VIII

INTERNATIONAL LOGISTICS

Workload and Resources

(U) During FY 1975, International Logistics business continued expansion at an explosive pace. At the beginning of the year, new business was projected at \$4.8 billion. New business totaled out at \$4.7 billion with International Logistics combined carry over business and new business reaching \$13.5 billion. International Logistics dollar business as a portion of total AMC procurement for FY 1973 was 29 percent, for FY 1974 was 46 percent, and for FY 1975 was 51 percent indicating an impressive climb. FY 1975 deliveries were \$2.6 billion indicating close to an eleven billion dollar international logistics carry over.

(U) An appreciation of the size of the AMC Foreign Military Sales programs is gained from the fact that during a period of ten weeks following 1 January 1975, statistics that had been compiled for a special report required by the Defense Security Assistance Agency (DSAA), indicated that AMC had processed more than double the total letters of offer processed by the US Air Force and US Navy combined. AMC's total for the period was 288 cases processed compared to 78 for the US Air Force and 58 for the US Navy.

Increased Top Level Interest in Foreign Military Sales (FMS)

(U) On 28 March 1975, the Deputy Secretary of Defense, the Honorable William P. Clements, Jr. advised the Military Departments regarding his concern that "all elements at the Department of Defense may not be performing their FMS responsibilities in a sufficiently careful and responsive fashion" and asked that the various services reassess their FMS role and capacity to implement FMS policy. Mr. Clements reminded the services regarding FMS policy which, when summed up, called for judicious application of management expertise to assure timely conduct of approved FMS programs that serve the national interest and meet valid military requirements.¹

(U) In forwarding Mr. Clement's remarks to the Army Staff Assistants and directors of the Deputy Under Secretary of the Army, Mr. Henry L. T. Koren noted that though the Army Staff and Secretariat had recently completed a reorganization of foreign military sales that had improved

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Memo, Deputy, SEC DEF, 28 March 1975, subject: Foreign Military Sales, signed W. P. Clements, Jr. (Historical Source/Files-AMCHO-Consolidated Subject File-IL-FMS)

personnel (13 civilian spaces) were transferred to AMC on 1 November 1974, and further assigned to the AMC Logistics Assistance Office (LAO), Hawaii. These 13 spaces included four personnel dedicated to provide technical assistance to Pacific countries under the auspices of AID. The AID, in coordination with DA Comptroller and the Director, International Logistics, AMC, determined that declining requirements for AID technical assistance in the Pacific area no longer justified funding the Army for four man-years of effort. In lieu thereof, AID agreed to reimburse the Army for any technical assistance and services provided on an "as required" basis. Accordingly, action was initiated to delete by 30 June 1975, four full-time civilian spaces identified on the AMC US Army Liaison Office-Hawaii Table of Distribution Allowances as supporting AID requirements.

Transfer of USARPAC ARVN Requisitions to ILC

(U) As directed by DA, beginning with FY 1971, the program and requisition control of dollar line for Vietnam and Korea Military Assistance Service Funded programs were transferred from the USA International Logistics Center (USAILC) at New Cumberland, Pennsylvania to the USA Base Command, Okinawa (USARBCO). Beginning with FY 1974, program and requisition control was returned to USAILC (US Army International Logistics Center) for FY 1974 and subsequent years. When US Army, Pacific (USARPAC) was phased out in FY 1975, it asked AMC to assume responsibility for remaining portions of the FY 1971 through FY 1973 programs at USARBCO for supply and at the Centralized Financial Management Agency (CFMA), USARPAC for fiscal control. As a result of the request, A team from AMC visited USARPAC and USARBCO to work out agreements and conditions of the transfers of the FY 1973 and prior year responsibilities to USAILC. It was also concluded that it would be in the best interest of the Army for AMC to accept additional non-Army Republic of Vietnam fiscal functions. On 5 June 1974, a Memorandum of Agreement was signed by representatives from AMC, USARPAC, and USARJ (US Army, Japan) implementing the transfer agreement effective, 1 July 1974.⁴

Transfer of Letters of Offer for Foreign National Training Responsibility to USAILC

(U) Effective 4 March 1975, the responsibility for preparing Letters of Offer for the training of Foreign Nationals was transferred

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(a) Letter, AMCPT-SA to HQDA (DAMO-FPD), 9 September 1974, subject: Transfer of FY 73 and Prior Year Dollar Line from USARPAC to AMC
(b) Memorandum of Agreement, 5 June 1974, subject: Transfer of Responsibility for Outstanding Prior Year ARVN Requisitions; signed Earl W. Williamson - AMCIL, Donald R. Brown - USARPAC, Harry V. Hobbs - USARBCO (Among Historical Sources of Historical Office, AMC - File 50-IL-1-75)

responsiveness to requirements levied by higher authority, that the demands "for American support and equipment had continued to rise, taxing the capability of organizations involved in security assistance to the utmost." ² Mr. Koren added that increased workloads had caused Army agencies at times either to be late responding to security assistance requirements or to submit inaccurate information to decision-makers. He requested that addressees reexamine the number of qualified personnel assigned to FMS and to consider requirements for increases in light of the rising workload. In forwarding the Under Secretary's request to the AMC commander, the Army Chief of Staff added that "every attempt should be made to meet the increased manpower requirements through internal reprogramming of available manpower." ³ The suggestion was not a requirement, however, the Chief of Staff letter allowed the AMC commander the flexibility of requesting additional spaces he determined necessary for accomplishing the expanding FMS workload.

(U) AMC responded to DA outlining internal actions taken to meet the increased workload and asked DA to approve an additional manpower allotment of 765 spaces (including 28 in AMC Headquarters Directorate for International Logistics) to support FMS requirements in FY 1976 throughout AMC. DA replied that no spaces were currently available for programming within the Army ceiling, and that this headquarters might be required to meet our additional requirements from available assets. DA also requested that AMC affirm or revise its requirements and that they be credibly supportable. The AMC requirement was re-studied, refined, and subsequently revalidated to DA to include a need for 779 additional spaces.

(U) Based on the review, findings and recommendations, effective 17 October 1974, the Directorate of International Logistics, AMC reorganized from a functional to a regional structure. Each regional division was assigned responsibility for handling both Foreign Military Sales and Grant Aid Programs. This system of operation provided for: a better and more manageable span of control; a greatly improved capability for conducting studies, analyses, and monitorship of international logistics programs; an improved capacity for customer stewardship in handling the multitude of important operational matters; and regional groupings which concentrated the expertise in a given geographical region under one division chief. This provided depth of expertise in that all action officers in that region were more capable of supporting one another because of the similarity of problems, cultures, and regional characteristics.

Technical Assistance for Agency of International Development (AID)

(U) Upon disestablishment of the United States Army, Pacific, the International Logistics Advice and Assistance function and related

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Memo, DUSA, 15 April, 1975, subject: Foreign Military Sales, signed Henry L. T. Koren (In Historical Sources of AMCHO-consolidated subject file ILFMS)

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Ltr - DACS-DMS to Command, AMC, 28 April 1975, subject: Foreign Military Sales. (In Historical Sources of AMCHO - Consolidated Subject File - ILFMS)

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from Directorate for International Logistics, HQ, AMC to the USAILC, New Cumberland, PA. This transfer was in keeping with AMC efforts to decentralize operations to the maximum extent practicable.

Congressional Interest in Letters of Offer

(U) During FY 1975, Section 36 of the Foreign Military Sales Act was amended to provide that congress must be furnished advance notification of FMS Letters of Offer valued at \$25 million or more. Additional guidance from DA on this matter specified that this requirement applied to individual Letters of Offer or to weapons systems requiring Letters of Offer which in the aggregate equaled or exceeded \$25 million. The provisions of the policy also applied to any amendment totaling \$25 million or more to an existing FMS case, and any amendments which would increase the value of an existing case from under \$25 million to a value above \$25 million.

Foreign Military Sales (FMS) and Army Readiness

(U) The Office of the Assistant Secretary of Defense evaluated the effect of FMS on US Army readiness during FY 1975. A study group that was established was primarily interested in: personnel available to support both Army and FMS programs; adequacy of the two percent administrative charge for FMS; impact of FMS on timely accomplishment of Army depot maintenance programs; impact of FMS on Army procurement objectives; and benefits occurring to the Army as a result of FMS. On 8 May 1975, The Director of International Logistics briefed representatives of the Office of the Assistant Secretary of Defense (Program Analysis and Evaluation) on the effect of FMS on US Army readiness. The thrust of the presentation highlighted overall advantages to the US Army resulting from FMS transactions despite short term disadvantages occasionally encountered such as diversions from Army stock or from units to meet urgent US foreign policy commitments.

Congressional Inquiry-Equipment Loaned to Foreign Governments

(U) AMC was asked by DA to provide specific information concerning loans of military equipment to foreign governments over the past two years. Information required by country consisted of the item, quantity, loan authority and advantages to the US Army COMSEC equipment and bailment of loan of equipment provided by a contractor for use in sales demonstrations was excluded from this report per DA agreement. The report provided DA contained 18 loan programs consisting of materiel, such as: training films, target acquisition radar sets, mortar carriers, utility helicopters, observation aircraft, metal detectors, troposcatter communication set, and anti-intrusion alarm systems.

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Middle East Task Group

(C) DA requested AMC to provide, for the month of April 1975, data on IL operations covering mideast countries. This information was requested by the Middle East Task Group for an overall review of middle east commitments. Data specifically requested were: projected materiel releases; pending sales cases for release; and security assistance teams going in or out of the mideast that could generate new requirements. These data were developed and provided to DA on 1 April 1975. Additionally, on 2 April 1975, DA was provided a long range projected delivery schedule of all principal undelivered items. In a related action, at 1800 hours on Saturday, 29 March 1975, DA requested data needed for a special Middle East Task Group meeting the next day. AMC, in coordination with ARMCOM and TACOM, responded at 2230 hours on 29 March and provided information relative to shipments made, materiel scheduled for shipment within the next 30 days, and the cost impact of any changes in delivery schedules.

AMC Customer Order Steering Committee

(U) AMC has formed a Customer Order Steering Committee to work in concert with a similar DA committee. The purpose of the AMC committee is to establish AMC policy/procedures toward the improvement of the AMC Customer Order Program and to implement guidance from the DA committee. The AMC Committee decisions will be the basis for input to the DA Committee. Primary AMC members are the Comptroller; Director, International Logistics; and Director, Management Information Systems. Other directors will be invited to participate or provide membership as needs are surfaced within their areas.

Proposed Joint International Logistics Control Office (JILCO)

(U) For sometime, OASD (I&L) has been considering the possibility of establishing a JILCO to manage the International Logistics program of all the services. Following an OSD-sponsored study, a report to this effect was published in February 1974. DA non-concurred in the study's recommendation on the basis that the study did not fully support the establishment of a JILCO and did not take into consideration management improvements instituted by the Army. In May 1975, the Logistics Systems Compatibility Review Group, acting for the DOD Logistics Systems Policy Committee, published a report which concluded that a totally integrated JILCO was impractical in the near term but may be desirable in the future. As an alternative to establishment of a joint organization, the Deputy Secretary of Defense directed the Joint Logistics Commanders (Army Materiel Command, Naval Material Command, Air Force Logistics Command and Air Force Systems Command) to standardize their foreign Military Sales procedures.

Mutual Emergency Support Agreement (NATO HAWK)

(U) Both the US Army Missile Command and the NATO HAWK Management Office considered it in their interests to develop an arrangement where-

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Excluded from automatic declassification
schedule of Executive Order 11652
Automatically downgraded at two year intervals
Declassified on 31 Dec 81

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by either participant could borrow from the other critically needed repair parts for their respective HAWK Missile Systems contingent upon needed repair parts being available. A coordinated draft agreement was prepared, staffed in AMC, and forwarded to DA for approval. This support agreement, developed by MICOM in coordination with the NATO HAWK Management Office, was approved by DA and the NATO HAWK Board of Directors. Two signed copies of the Memorandum of Understanding (MOU) were dispatched on 2 July 1975 for signature and return to this headquarters. The MOU permits the loan of critically needed HAWK components and secondary items between US Forces and the NATO HAWK consortium.

Project 9DD/9JJ Status

(S) The fifth AMC briefing on the status of Project 9DD/9JJ since July 1974, was given to DA on 29 May 75. This briefing covered the status of those major items of equipment purchased by the Government of Israel under Projects 9DD and 9JJ. Data provided indicated quantities shipped, forecast schedules for undelivered quantities, and problem areas. The status reflected excellent accomplishments by AMC. In view of the few minor problems remaining and firm procurement delivery schedules for the undelivered items, it was agreed that these periodic briefings would be discontinued. As a wrap-up, this AMC briefing was used by DA for a one-time presentation to the Middle East Task Group to highlight the major accomplishments by AMC and US Army under this FMS Program.

M48A3 Tanks for Israel

(S) Anniston Army Depot processed 200 M48A3 tanks for Israel. As of 23 May 1975, 120 tanks had been shipped and 22 were enroute to port for shipment. The remaining 58 at Anniston Army Depot had been offered to transportation which met the requirement, between 1 April and 1 June 1975.⁵

AMC Logistics Readiness Condition System (LOGCON)

(U) The Deputy Commanding General for Logistics support approved the staffing of a proposed AMC regulation which would establish a logistics readiness condition (LOGCON) system solely within AMC similar to the DEFCON system (effective 2 April 1975). LOGCON envisioned five progressive, logistics readiness conditions which would enable AMC to better support IL commitments where US combat troops are not involved, or national disaster relief efforts where US Army logistics support could be logically expected. The need for such a system developed out of AMC's experiences with emergency supply support operations to IL customers at the end of the

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Memo-Dir/IL-AMC, 2 June 1975, subject: Weekly Activity Summary
(In Historical Sources of AMCHO-228.02 IL-Weekly Activity Summary)

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Vietnam War and during the last Middle East War. On 3 April 1975, this directorate briefed the DA 16-76 Alternative Steering Group, at the Pentagon, regarding the AMC LOGCON plan. All representatives of the group orally expressed their approval and support of the LOGCON concept.

Defense Assistance Vietnam

(C) Following a late afternoon meeting in DCSLOG 28 March 1975, to review urgent materiel requests from DAO Saigon, and to implement guidance from the Army Chief of Staff, AMC Director of International Logistics issued warning orders to AMC subordinate commands and depots, and activated the AMC Operations Center at 2100 hours (local), Friday night on full manning basis. The AMC Operations Center was operated on a 24 hour basis to provide extraordinary supply expedite to South Vietnam. An impact shipment of 14 105mm howitzers (towed) and 14 57mm recoilless rifles landed at Tan Son Nhut 1 April 1975. Intensive reviews of supply status items/shipments were initiated, and diversions from surface to nearest available ports of air shipment were made where feasible. The Director, in his secondary capacity as Director, AMC Operations Center, supervised expedited support of DAO-Saigon and ARVN forces. Key actions included the presentation of a briefing to the Vice Chief of Staff on the status of FY 1975 funds for Vietnam and development of logistic data to support various plans under consideration.

(C) The AMC Operations Center operated on a reduced manning the first part of the week of 14 April 1975 and because of reduced activity, the Director of International Logistics closed the Center at 1400 hours, local time, on 18 April, retaining the capability to become operational again within a couple of hours, if required. On-going actions were returned to the Asia-Pacific Branch, Directorate for International Logistics, and appropriate AMC directorates. AMC was asked to provide a major input to the wrap-up of US support to the Republic of Vietnam which was prepared by DA. A summary of major item deliveries accomplished through the various types of military assistance was requested for the entire duration of support to RVN. The target date for completion of the historical summary was set at mid-July 1975.

Army Pricing Policy-Defense Assistance-Vietnam (DAV)

(U) On 15 April, the Comptroller of the Army (COA) issued guidance to AMC and its major subordinate commands (MSC) for use in promulgating the provisions of Army pricing policy for DAV. This guidance required major and principal items to be priced based on replacement costs if the items supplied were to be procured within the next 12 months. Items furnished for which no future procurement was planned, as well as secondary items, were priced at the published standard price. COA further required a review of the FY 1975 DAV undelivered program lines to determine quantities and items which could not be delivered within the DAV program limitations. The MSC's were further directed by AMC to price all items in the FY 1975 DAV program, delivered and undelivered. This requirement was triggered by a request by the Secretary of the Army to determine instances

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where the price charged against the DAV account was insufficient to purchase the replacement item.

Deobligation of Defense Assistance-Vietnam (DAV)

(U) Assistant Secretary of Defense (Comptroller) Memorandum of 6 May 1975, requested that the services submit an estimate of the amount of DAV funds which might be deobligated as a result of the termination of Republic of Vietnam supply actions. DA directed AMC to establish a program for refining the estimates of DAV funds that could be deobligated and to report those estimates on a weekly basis. Data submitted on 21 May 1975 to DA reflected a firm estimate of \$29.7 million available for immediate deobligation and an additional \$40.8 million as an unconfirmed estimate, which was not available for deobligation. AMC advised DA on 28 May 1975 that an additional \$.7 million in DAV funds was available for immediate deobligation. The firm estimate totaled \$30.4 million.

Special Assistant for Iranian Affairs

(U) The SECDEF established at the OASD level a Special Assistant for Iranian Affairs. The Special Assistant was to be responsible to the SECDEF for central control and direction of Iranian programs. The Director of International Logistics, AMC provided through DA the status of all significant aspects of the Iranian FMS/Co-Production programs.

Processing of Munitions Cases

(U) As of 20 May 1974, HQ, AMC assumed the DCSLOG function for the Strategic Trade and Munitions Control Program. During the period following that date the number of munitions case applications being forwarded to this command increased considerably. On 27 February 1975, AMC received a letter from DA requesting comments and recommendations based on a memorandum from Assistant Secretary of Defense/International Security Affairs (OASD/ISA) concerning the processing of munitions cases. Concern was expressed about the time required in obtaining DOD positions on munitions license applications. The Director of International Logistics responded to DA indicating added emphasis was being placed on munitions cases generally and on "late" cases in particular, indicating that additional personnel were being assigned to this function. With the addition of these personnel the total number of munitions cases, especially the "late" cases were reduced considerably.

Suspended Turkey MIMEX Programs for Tactical Wheeled Vehicles

(C) A large percentage of shipments suspended to Turkey involved tactical wheeled vehicles allocated under MIMEX (MAP Utilization of Major Items in Long Supply of Excess). This factor contributed to significant storage problems, both in Europe and at many of the smaller Army installations in CONUS. A message was dispatched to OSD requesting that all current allocations of wheeled vehicles to Turkey be cancelled, and that no new allocations be made until the suspension was

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lifted. The adverse impact on the Turkey program was expected to be minimal since it was thought that additional assets of these types of vehicles would be generated in the future and could be made available if MIMEX programs were reinstated for Turkey. In response to AMC's request to cancel all current allocations of wheeled vehicles to Turkey, DA advised that it was considered in the best interest of all concerned to continue to hold these assets until such time as the suspension was lifted. Affected headquarters were so informed.

Cambodia MAP Suspension

(C) On 13 March 1975, DA directed this headquarters to suspend immediately further shipments of ammunition to Cambodia against \$21.5 million identified as undelivered in the FY 1974 program during an ammunition reconciliation. This was a reversal from previous guidance. DA also requested immediate information on any ammunition quantities in dollar amounts issued against the \$21.5 million. Implementing directives were issued to ARMCOM with information to all commands concerned. Then on 12 April 1975, the SECDEF directed the Military Services to suspend all MAP shipments to Cambodia. Army materiel enroute to the Khmer Republic was to be frustrated and placed in United States Government facilities under Army accountability. All MAP materiel at depots, contractor facilities, or other holding points was to be retained at such locations until disposition instructions were provided. AMC issued instructions to all supply activities to stop and identify shipments of all items marked for Cambodia and report this data to the USAILC for program reconciliation. The USAILC initiated cancellation requests for all open documents including both major and secondary items to supply activities. Action was taken by all concerned to determine the recoverable dollar value that could be returned to the MAP program.

Suspension of Brazil Letters of Offer/Acceptance

(U) On 1 April 1975, DA advised of a suspension of Letters of Offer/Acceptance for Government of Brazil pending further advice. The suspension affected 12 Letters of Offer in process of preparation at the commodity commands; six Letters of Offer not accepted by the country; and two accepted Letters of Offer awaiting funds. No suspension of supply against implemented case was indicated. The suspension was lifted 9 May 1975.⁶

Identification and Transmission of Unit Price Composition to USAILC

(U) The Comptroller and Director of International Logistics, HQ, AMC, developed a standard procedure by which AMC's major subordinate

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Memo - Dir/IL-AMC, 20 May 1975, subject: Weekly Activity Summary
(In Historical Sources of AMCHO - 228-02 IL - Weekly Activity Summary)

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commands (MSC's) could develop and transmit detailed unit pricing data to USAILC. The contemporary practice required manual review and processing to apply actual charges at time of billing. The newly instituted procedure required the MSC's to develop detailed elements of pricing for the Letter of Offer (e.g., RDT&E, MPA, unfunded costs, PEMA/OMA splits), to post these elements to their records, and to communicate this information to USAILC for entry into its records. Data would be transmitted from the MSC's to USAILC by a deck of punch cards containing a header card with the total unit price, and trailer cards for each individual element of the price. Changes to the price elements would be through the media of change cards. This procedure would cause identical pricing data to be recorded both at the MSC's and USAILC so that billing actions could be processed with a minimum of manual intervention. Data elements in these files could also provide a basis for accomplishing periodic cross-checks of orders between the MSC's and USAILC.

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CHAPTER IX

MAINTENANCE

Organization and Programs

(U) BG William E. Eicher continued as Director for Maintenance during FY 1975. Mr. Henry J. Bukowski continued as Deputy Director. As of 1 July 1974, the Directorate was authorized 7 officers and 121 civilians with a civilian grade average of 11.09. Actual on-board strength was 9 officers and 107 civilians. Grade average of civilians was 11.14. The authorized strength of the Directorate was reduced to 7 officers, and 117 civilians, with a civilian grade average of 11.01 effective 30 June 1975.¹ On-board strength at the end of FY 75 was 8 officers and 113 civilians with a civilian grade average of 10.88.

Maintenance Director's Conference-December 1974

(U) During 3-5 December 1974, General Eicher held a conference with Directors of Maintenance from AMC Major Subordinate Commands and Depots at Lexington-Blue Grass Army Depot to advise responsible Maintenance personnel of future plans, to promote beneficial interchange of ideas, and to provide a platform upon which to identify and discuss resolutions to mutual problems. All subordinate commands and Major depots were represented, and all conferees favored holding such conferences more frequently.

Major Subordinate Command Review

(U) During the latter portion of the fiscal year, the Director established procedures for a quarterly review of the Major Subordinate Commands (MSC) execution of Maintenance Support Programs. The reviews were intended to permit face-to-face discussion of program progress and identification of problem areas among the major subordinate commands. The procedures were to be continued into ensuing years since they provide an excellent vehicle for adjusting programs to meet changing conditions.

AMC-TRADOC Improved Technical Documentation and Training

(U) At an Executive Session at Fort Lee, Virginia, 14 May 1975, MG Gorman, MG J. W. Pezdirtz, MG D. O. Graham, and BG W. E. Eicher agreed that they four would constitute a Steering Committee to establish policy for AMC/TRADOC cooperation with respect to technical publications

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DF, AMXMM-SM, 26 December 1974, subject: Adjusted FY 75 Manpower Authorization and Civilian Average Grade Revision.

and technical training. The Steering Committee adopted a two-step plan of action, bringing into being a Working Committee to develop both plans. Step One was to draft, for the approval of the Steering Committee, a basic Charter which would delineate the responsibility of TRADOC for stating requirements and AMC for meeting them. Step two would be a plan which would establish priorities and methods for proceeding. At a meeting at Fort Lee, Virginia, 4 June 1975, the Working Committee drafted a Charter which was approved. At a meeting at Fort Monroe, Virginia, during 23, 24, 25, and 26 June 1975, a plan of action was developed, demonstration projects were identified, and courses of action to be pursued were assigned members of the Working Committee.

Equipment Serviceability Criteria (ESC)

(U) Equipment Serviceability Criteria (ESC) has been a subject of intensive interest at DA General Officer level and Field Commanders for several years. There have been several divergent opinions regarding ESC's. They were viewed as useless as predictors of materiel readiness and recommended for cancellation. They were seen as too time-consuming to perform and of questionable value. On the other hand, DA stated that DOD Directives require documentary evidence of Combat Readiness. Therefore, some method or system must continue to exist. Several studies were underway at the end of FY 1975 in an attempt to resolve the problem.

Publications Improvement Program

(U) Several contract efforts were underway, each with a goal of improving the techniques of presenting maintenance information. In a project entitled "Low Cost Ownership" (Reduce Life Cycle Costs of Ownership) two contracts have been let to study ways of improving maintenance information transfer. One study, contracted to RCA, approaches the program from a technical, maintenance engineering standpoint. A parallel study awarded to Kinton Inc. approaches the problem from a human factors point of view. A contract with Hughes Aircraft Company has as a goal the development of new specifications for the preparation of organizational maintenance manuals. Products of this contract will be a new specification and a style guide and handbook for use by the technical writer in preparing the manuals. A new draft specification for the preparation of operators manuals was being evaluated at the end of FY 1975. Sample manuals were being prepared using this specification. The manuals, when field tested, hopefully would provide information useful in revising this specification.

Standard Army Maintenance System (SAMS)

(U) The planned Standard Army Maintenance System (SAMS) comprises three major elements: Headquarters, DA, Headquarters, AMC (Wholesale Level), and TRADOC (Retail Level). The General Functional System Requirements (GFSR) planned for inclusion at the wholesale (AMC) level at SAMS along with the related economic analysis was approved by DA and the Detailed Functional System Requirements (DFSR) was under preparation at

the close of FY 1975. SAMS merges all current maintenance management and materiel readiness reporting systems into one standard uniform Army-wide maintenance management information system. What SAMS promises to do is: to reduce and simplify reporting eliminating duplication; to establish standard methods of data preparation and analysis through employing standard formats; to institute uniform maintenance standards and systems of comparison and analysis; and to improve materiel readiness through efficient use of maintenance resources.²

Integrated Logistics Support - The Materiel Fielding Plan

(U) Convinced that the successful fielding of new end items and weapons systems is dependent upon the degree to which logistics support has been planned and executed for these items and/or systems, in May 1975, BG William E. Eicher, AMC Director of Maintenance announced the requirement for a single document providing for integrated logistics support to be known as the "Materiel Fielding Plan" (MFP). Under the plan, materiel managers would be required to provide Materiel Fielding Plans for all developmental, product improved, new commercial and other nondevelopmental materiel systems. Separate MFP's would be developed for deployment to each applicable gaining command (i.e., oversea command, CONUS commands, and other services and agencies). The size and complexity of the MFP was to be consistent with the type and quantity of materiel and the logistics support required. The MFP would replace the Deployment Plan called for in AMCR 750-15 and Logistical Support Plans contained in paragraph 2-24 and Appendix K, AR 750-1. Materiel Fielding Plans would not be required for Multi-Service Communications Electronic System items or items for which DCSLOG, DA had already directed the preparation of Logistical Support Plans.

(U) Initially, the MFP was to serve as the vehicle for consolidating all logistical support matters relevant to the materiel gaining command. In its final updated form, the MFP was visualized as capable of standing alone as a complete entity revealing all detailed plans, schedules, procedures, actions and status necessary to successfully deploy, process, and sustain a new item in the field. In addition, the MFP was viewed as significantly assisting with decisions to release materiel for issue as required by AMCR 700-34 and serving as a support document and checklist for release authorities.³

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LTC Hoyt M. Hammer, Retail SAMS "THE ARMY LOGISTICIAN," July-August 1975, pp. 19-21.

3

Ltr, AMCMA-X to AMC Headquarters Components, Project Managers, Major Subordinate Commands and selected installations and activities, 28 May 1975, subject: " Integrated Logistics Support--The Materiel Fielding Plan, Signed BG William E. Eicher (Incl 1 included instructions for implementing the MFP).

Depot Materiel Maintenance and Support Activities Program

(U) The Programs and Analysis Branch of the Plans and Programs Office, Directorate of Maintenance provided staff supervision over the execution of the FY 1975 Depot Materiel Maintenance and Support Activities Program (P7M) which amounted to approximately \$645,743,000 in terms of total costs incurred. There was extreme turbulence experienced in program management during the year, due to continuous inflationary cost increases for labor and materiel. There were constant program changes/adjustments required to compensate for cost increases on programs carried over from previous years, as well as on those started early in FY 1975.

P7M Command Operations Budget

(U) The Branch also prepared and defended the Command Operating Budgets (COB) for P7M for both FY 1975 and FY 7T during this period. The requirement for two COBs was dictated by Congressional action to change the fiscal year from 1 July-30 June, to 1 October-30 September effective 1 October 1976. The FY 1976 COB covered 1 July 1975 to 30 June 1976 and was for approximately \$774,688,000. The FY 7T COB covered a period from July 1976 to 30 September 1976 and was for approximately \$210,705,000.

Personnel Turbulence

(U) The Programs and Analysis Branch and the entire Maintenance Directorate activities were severely affected during the year because of personnel turbulence caused by retirements, details, and other personnel shortages. For example, branch personnel were utilized on extended detail to represent the Maintenance Directorate on both the AMARC and Project 16-76 Task Groups.

Depot Maintenance

Organization and Mission Changes

(U) The FY 1975 end personnel strength of the Depot Maintenance Division totaled 29, consisting of 2 military and 27 civilians. No significant changes occurred in the mission or organizational structure of the Depot Maintenance Division during FY 1975. However, there was significant participation by personnel of this Division in DA/DOD directed studies which have had major impacts throughout Department of the Army. For example: in December 1974, Colonel James D. Papile was permanently assigned to the Army Tank Acceleration Office (ATAO) and Mr. Mark W. Cope was also assigned for approximately six months under the direction of Maj. Gen. C. M. McKeen, Jr. The mission of the ATAO was to increase the Army's inventory of prime tank assets through acceleration of the deliveries of new production tanks and upgrading older tank assets to the diesel model, 105mm gun configuration.

(U) During the period 31 March thru 18 April 1975, the AMC Operations Center was activated and manned 24 hours a day to assure maximum support of high priority requirements. Also, the Taiwan Materiel Agency phasedown plan was implemented in FY 75 and at the end of FY 76 was 95% completed. All production had been stopped with complete disposition of materiel expected to be completed by 30 September 1975. Mr. William Holley, special Project Officer for TMA participated in the phasedown plan thru on-site visits with Mr. Edwin Creiner, ASA I&L and BG William E. Eicher, Director of Maintenance.

(U) In addition, Mr. James Stapula, Chief of Operations Branch of the Depot Maintenance Division was on special detail for the major portion of FY 1975 to the DOD directed Depot Maintenance Workload Consolidation Study. This group was assigned the mission of studying and recommending depot maintenance workload consolidations among 31 depot maintenance facilities under the Navy, Air Force, Army and Marine Corps. The objective of the study was to perpetuate economical operating by consolidating depot maintenance workloads.

(U) Although established in June 1974, the Maintenance Interservice Support Management Office (MISMO) was not fully manned until the third quarter of FY 1975. Mr. Grover A. Krone, GS-15, was assigned as Chief, MISMO in September 1974, with Navy; Mr. Ralph E. Swisher, GS-14 and Air Force; Mr. Darrell E. Cummings, GS-14, as Interservice Liaison Officers (ILOs), assigned permanent duty stations at Headquarters, AMC in July and October 1974, respectively. Likewise, AMC Interservice Liaison Officers (Mr. Bruce S. Malmont and Mr. Jack J. Russ) were assigned to the Air Force and Navy MISMO organizations in October 1974 and January 1975, respectively. Major emphasis of these Offices was directed toward the objective of increasing interservicing of depot maintenance support and eliminating duplication where feasible between the Services.

Depot Modernization and Standardization Plans

(U) All facilities submitted detailed plans delineating their projected modernization and standardization requirements for the 5 out-years (FY 1976-1980). Coordinated action was being taken by AMC elements to have the plans upgraded to cover a 15-year span. The intelligence gathered as a result of this effort provided valuable statistical data that could be used for budget defense, funding guidance, and a variety of related actions.

Depot Maintenance Plant Equipment.

(U) AMC Circular 750-3, Depot Maintenance Plant Equipment Program, dated 1 September 1974, was published and distributed. The circular provides the guidance necessary for field installations to maintain and operate an economical and efficient depot maintenance plant equipment program.

ALPHA

(U) During FY 1975 an interim system, titled AMMDEX, was installed at all commodity commands. The system provides a method for commodity commands to transmit depot maintenance program data to USAMIDA.

SPEEDEX

(U) Hard-core and follow-on applications including production planning and control for depot maintenance operations, were installed at all SPEEDEX depots during FY 1975. However, maintenance personnel at the depots have not been able to use SPEEDEX as easily as they could use the data that they previously compiled manually according to a study conducted by United Industries, incorporated during July-October 1974. The depots studies included: Red River, Letterkenny, Anniston, Lexington-Blue Grass, Sacramento, Sharpe, Tooele, and Corpus Christi. The study was made to evaluate the maintenance and quality operations at each depot. The findings were that the depots, in general, were well operated and seemed to attain their mission regarding the delivery of repaired equipment but that there was much room for improvement in the areas of efficiency and productivity.⁴

(U) Specifically, the survey team found that the full potential of SPEEDEX had not been developed at the time of the study, that the SPEEDEX system as then constituted did not yield the type of information that the maintenance and quality people needed. The survey team believed that there was a need to establish greater communications between the SPEEDEX system designers and the users of the system in order to develop more useable information.⁵

DOD Depot Maintenance Workload Consolidation Study

(U) Headquarters AMC was delegated by DA to participate with DOD and the other services in an extensive study of DOD depot maintenance workload and facilities with the objective of economies through consolidation of workloads. Phase 1 of the study was completed and a draft report prepared and forwarded to the Services for review and comment. The Army's position and comments relative to the recommendations contained in the draft report were transmitted to the Secretary of Defense on 29 April 1975. The Army non-concurred with the bulk of the findings and recommendations of the study and suggested that further

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Report of Depot Survey, February 1975, United Industries, Inc. (Contract No. SB 3-2-0-8(a)74-c-516), p.i., in documents among the holdings of the Historical Office, US Army Materiel Command

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Ibid., p. iii

study be curtailed until DOD provides policies and procedures for managing and costing depot maintenance that would result in data that was comparable between Services and could be used to support viable workload consolidation decisions.

Evaluation of Depot Maintenance Performance

(U) During FY 1975 a procedure for scoring depot maintenance performance was tested. This procedure scores four general areas of depot maintenance efficiency and effectiveness: production, cost, manpower, and quality. The indicators used, the data collection systems and associated computations were live tested during four quarterly evaluations. All indicators proved to be satisfactory. A draft circular to be utilized for evaluations during FY 1976 was under preparation at the close of FY 1975.

(U) Realizing that a system of measuring both efficiency and performance would be valuable in the allocation of resources, as well as in motivating the depot workforce, in early 1974, AMC developed the Efficiency and Effectiveness (E&E) system to evaluate both depot and commodity command performance. Simply stated, the system computes effectiveness by comparing current period accomplishments with goals and objectives established by each depot or major subordinate command. Variations in mission, workload, facilities and local conditions have prevented AMC from using the E&E system for evaluating total depot performance. For example, the E&E applies to all AMC depots except for the three ammunition depots which must be measured separately against each other. However, though AMC must incorporate other measuring devices for use in addition to the E&E system in order to more completely measure and evaluate performance, the system has proven very effective in motivating the AMC depot workforce. AMC also looks to future actions to improve the performance measurement system.⁶

Floating Army Maintenance Facility (FAMF)

(U) Following careful consideration of guidance and recommendations regarding the effectiveness of the 1st TC Battalion with the USNS Corpus Christi Bay, no longer a floating depot maintenance facility, it was decided to return the Corpus Christi Bay to the Navy effective 31 December 1974. The 1st TC Battalion was to be inactivated during the 3d Quarter, FY 1975. Costs associated with Army equipment removal

and return of the USNS Corpus Christi Bay to the Navy were estimated in early 1974 to be approximately \$271,000.⁷

Depot Quality Assurance and Maintenance Operations

(U) At the direction of MG Joseph W. Pezdirtz, AMC-DCG for Logistics Support, an independent consulting firm conducted an extensive analysis of depot quality assurance and maintenance operations. General Pezdirtz reported in mid-April 1975 that the report of the contractor had been evaluated and that certain significant changes in depot organization structure and methods of operation would be required to affect improvements. General Pezdirtz informed each depot commander regarding individual depot changes "I plan to proceed with the implementation of the intent of the recommended improvements unless you advise me by 1 May 1975 that the results of the changes would establish an unmanageable condition at your depot."

(U) General Pezdirtz was particularly interested in the immediate implementation of coordinated planning in the reconditioning operations with the Directors of Maintenance and Quality Assurance at the depots. In General Pezdirtz's view, inadequate planning between these two directorates could only result in inefficiency and confused production processes. Priority was also placed upon establishing a policy that functional and performance testing be conducted by the quality assurance elements at the depots to verify materiel compliance to requirements. General Pezdirtz cautioned that high rejection rates of materiel must be investigated looking to correction of faulty processes, not merely for the purpose of screening good materiel from bad merely to meet production schedules. What the Deputy Commanding General for Logistics Support was looking for was effective and efficient overall depot operations.⁸

Logistics Interservice Program

(U) In a joint Memorandum of Agreement signed 10 December 1974, the four logistics commanders of the various services agreed that the potential at a Logistics Interservice Program be utilized to the fullest. The commanders were: General Henry A. Miley for the US Army Materiel Command; General Samuel C. Phillips for the Air Force Systems Command; Admiral Isaac C. Kidd, Jr. for the Naval Materiel Command; and General William V. McBride for the Air Force Logistics Command. Major returns were expected from two areas of the agreement: materiel management and depot maintenance. What was sought was the elimination of duplication

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(a) Ltr, DCSLOG to AMC, #6690, 17 June 1974, subj: Floating Army Maintenance Facility (FAMF), USNS Corpus Christi Bay (CCB); (b) Ltr, AMC-EA to HQDA (DALO-2A), Wash., DC, 10 September 1974, Subj: Floating Army Maintenance Facility (FAMF) USNS Corpus Christi Bay (CCB) (c) Ltr, AMCMA-EA to Commander, Corpus Christi Army Depot, 27 Sep 74, subj: Floating Army Maintenance Facility (FAMF), USNS Corpus Christi Bay (CCB).

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Ltr, AMCQA-PD to Commanders of all AMC Depots, 15 Apr 75, subj: Depot Quality Assurance and Maintenance Operations, signed MG, USA, DCGLS, Joseph W. Pezdirtz.

of effort and resources through a program of interservice support arrangements.

(U) The operational needs of each Service would provide the criteria for operations. Each interservice support arrangement was to satisfy the operational readiness of receiving Service without detriment to the providing Service. Interservicing of depot support was also to provide economies and acceptable response times for both the receiving Service and the providing Service. Not all weapons systems, subsystems, major end items, components, and logistics functions, because of essential operational requirements unique to the using Service, would be amenable for interservicing; however, none were to be placed onto the non-susceptible category without a critical review. It was the desire of the Logistics commanders that all working level managers of logistics tasks actively seek opportunities to realize economies by interservicing.⁹

Depot Planning

(U) According to the United Industries survey mentioned earlier in connection with SPEEDEX, depot planning was inadequate. The survey, conducted during July-October 1974, found that depot planning at the eight depots surveyed, was generally carried out from the bottom up rather than from the top down and that as needs arose, they were filled and as problems surfaced, they were solved, all in a kind of piecemeal approach. Depot planning was found to be performed mostly by maintenance people with minimal involvement from quality or commodity command personnel. The primary document for production planning was the Depot Maintenance Work Requirements (DMWR) but many of the DMWR's had not been developed for general use and not with particular depots in mind according to the surveyer who noted that the DMWR's had developed over a long period of years and varied greatly, often making the DMWR being used not responsive to the needs of the particular depot using it. The study group also noted that the lack of adequate documentation and the lack of involvement of quality in the planning function resulted in inadequate definition of the production process, lack of quality standards and decisions based upon routines not always applicable to the particular product and process.¹⁰

(U) More specifically, the survey found that in addition to the non-availability of DMWR's or ones which did not relate to the depot operation, that repair procedures were not defined and that depots were

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"Logistics Interservice Program", Maintenance Bulletin, HQs, AMC, Directorate of Maintenance, Vol. V. No. 2, April 1975, p. 2.

10

"Report of Depot Survey, February 1975," United Industries, Inc., (Contract No. SB3-2-0-8(a)74-C-516), p. i, in documents among the holdings of the Historical Office, US Army Materiel Command.

uncertain regarding overhaul and repair operations, particularly on Military Assistance Program (MAP) projects. The study report pointed out that though regulations and systems involving the commodity commands and MIDA (Major Item Data Agency) theoretically provided answers, the information was not getting into the system. The study group recommended that integrated planning be undertaken for each product line and that personnel from the functional areas of maintenance, quality assurance and supply and the commodity command involved take part in an integrated planning procedure to obtain complete job definition and detailed operational procedures.¹¹

Nonavailability of Repair Parts

(U) The nonavailability of repair parts was a major problem for all of the depots studied by the United Industries, Inc. survey group. Upon receiving a rebuild or overhaul program notice from the Major Item Data Agency (MIDA), the depot becomes committed to a delivery schedule and to total cost. The National Inventory Control Point (NICP) has responsibility for furnishing repair parts to the depot based on the mortality rate of previous overhauls of similar equipment. The delinquent delivery rate for the repair parts was very high according to the United Industries, Inc. study. There were found to be numerous causes for the problem of repair parts shortages and they included: The use of outdated provisioning lists or obsolete repair parts or special tool lists by the item manager in authorizing the NICP to procure repair parts; the NICP failure to notify the depot in a timely manner regarding lead times required for procuring the repair parts required, and on new programs, there may have been insufficient history to establish a creditable mortality list. Whatever the reason, the failure of the depot to receive required repair parts for its maintenance programs, causes delivery schedules to slip and results in a poor rating for the depot.¹²

Depot Rating System

(U) The United Industries, Inc. study also found that the depot rating as it then existed and was used produced motivation to beat the system rather than improve the performance of the depot. The survey group indicated that depot commanders frankly stated that "as long as the rating system is used to judge the depot's performance, their performance, their fitness reports, and make a major effect on their career, they will continue to play the game of 'beat the system'".¹³

11

Ibid.; pp. 2-3.

12

Ibid.; pp. 304.

13

Ibid.; p. 6.

(U) The survey was critical of the rating system in that outside factors created some depot problems which were charged against the depot in the rating system and on unwarranted penalty against the depot. And, it was also noted that easily repaired, high production items were rated on the scale as more complex items. The survey group believed that the high-volume, low-reject item masked the low-volume, high-reject item yielding an inequitable comparison between depots in the performance rating and reporting system. The study group offered the opinion that on an operational basis, it was not necessary that all depots operate exactly the same and therefore, it could not be expected that depot operational statistics should be comparable between depots. Environmental factors, also, had to be considered in any rating system comparing depot performance equitably in the view of the United Industries, Inc. study which recommended that a measurement of quality should be an important factor in the measurement. What was needed, according to the study group, was a measurement system that would foster both quality improvement as well as operational improvement.¹⁴

Depot Maintenance Items Completed

(U) Depot maintenance completions in FY 1975 surpassed FY 1974 performance. The eleven AMC depots whose maintenance operations were measured completed some 940,000 items in FY 1975 compared to about 729,000 items in FY 1974. Sharpe Army Depot finished on top with about 95% of its schedule at some 19,000 items scheduled. New Cumberland showed up at the bottom of the rating scale having completed some 59% of 28,000 items scheduled for maintenance. The completion rate for all the measured depots including Sharpe, Tobyhanna, Anniston, Lexington, Tooele, Corpus Christi, Red River, Sacramento, Letterkenny, Pueblo, and New Cumberland rose from approximately 60 percent of scheduled items in FY 1974 to about 78 percent in FY 1975, an indication that the quality of performance or the scheduling or both had improved.¹⁵

Depot Maintenance Reject Rates and Overall Performance

(U) For the total of AMC depots measured for rejection of finished work, the reject rate was 1.6 percent in FY 1975 which was well within the targeted ceiling of 1.9 percent. The best quality score obtained by all the depots was obtained by Lexington and the lowest quality score was received by Corpus Christi. In between came Letterkenny, Tooele,

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Ibid., pp. 6-7

¹⁵

"AMC Overall Performance Indicator Review and Analysis (OPIRA). Fiscal Year 1875" CAMERA FEEDBACK - 4-76, Chart 23, Review and Analysis Division, Comptroller, HQs, AMC. among holdings of AMC Historical Office.

Pueblo, Anniston, Sharpe, Tobyhanna, Red River, New Cumberland, and Sacramento in that order. All depots except Sacramento and Corpus Christi were performing within target ceilings for rejections.¹⁶ Overall depot maintenance performance rated on output of quality and quantity plus personnel management found Anniston in the lead followed by Sharpe, Lexington-Blue Grass, Tooele, Corpus Christi, Tobyhanna, Pueblo, Letterkenny, Red River, Sacramento, and New Cumberland.¹⁷

Maintenance Engineering

Maintenance Engineering Techniques Handbook

(U) With publication expected near the end of FY 1975, a handbook for maintenance engineers was under preparation at the Martin Marietta Aero Space under contract to the AMC Engineering Handbook Office. Written primarily for maintenance engineers, the handbook was to be structured also for the use of new personnel seeking guidance and orientation. The pamphlet, AMC PAM 706-132, "Maintenance Engineering Techniques Handbook" will include techniques proven adaptable for maintenance engineering throughout the entire life cycle of materiel acquisition. The techniques prescribed by the pamphlet are intended to assure the production of mission ready end item weapons and equipment.¹⁸

MEADS - (Maintenance Engineering Analysis Data System)

(U) The Maintenance Engineering Analysis Data System (MEADS) has existed as a concept since 1968; however, during the past year it became a fully functional system which included operational computer programs. MEADS provides a standard system for developing logistic support concurrent with hardware design. Logistics support design as built in the materiel Maintenance Engineering Analysis (MEA) is conducted simultaneously with the hardware design and the MEA documentation provides several support elements including: visibility of tools and test equipment facilities, personnel, repair parts and technical data; analysis

16

Ibid.; p. 21

17

Ibid.; Charts 49 & 50.

18

AMC PAM 706-132 - Handbook For Maintenance Engineers "Maintenance Bulletin", HQS, USAMC, Directorate of Maintenance, Vol. V. No. 2, April 1975, p. 3.

of personnel requirements by skill, type, and number; and forecast of life cycle costs in dollars.

(U) Computer programs were installed and are operational at five government and ten contractor operated activities. Four of the Army's big five development items (Advanced Attack Helicopter - Mechanized Infantry Combat Vehicle, Utility Tactical Transport Aircraft System, and XM-1 Tank) were among the users of the automated MEADS. The number of users was growing constantly because of the benefits accruing to current users. One of these benefits included the prevention of expensive MWO's (modification work orders) following fielding of items. Another benefit involved the use of the MEADS data worksheets for a checklist of decisions required for evaluating logistic support requirements. Also, the MEADS ADP programs simplify the handling of data and provide summary reports portraying total visibility of support requirements. Additionally, the ADP system provides the capability for organizing data products for maintenance allocation charts (MAC), repair parts/special tool lists (RPSTL), skill requirements by MOS; identification of training needs, and provisioning data in ALPHA format.

(U) The ADP programs are available to AMC hardware development contractors with the concept being to avoid redundant costs to AMC for developing similar systems by each AMC hardware developer seeking to integrate the elements of logistics support. The MEAD procedures and ADP system are maintained by the US Army Maintenance Management Center (USAMMC) at the US Army Depot, Lexington-Blue Grass, at Lexington, Kentucky.¹⁹

Aircraft-Missile-Electronics

(U) The Aircraft and Missiles/Electronics Division remained constant comprising two branches, one of which combines Missiles and Electronics. The division originally had 18 personnel including three branches, but at the end of FY 1975 included 16 personnel under two branches. The workload of the division increases continually throughout the year because of: assumption of AR 95-33 (Aircraft Readiness, Status and Flying Time) responsibilities and related summary reports; Weapons System concept for Aviation (including Missiles) continues to involve increased emphasis on OMA funding, Maintenance Engineering and Logistics Support; and new aircraft missiles and electronics systems coming into the inventory are not equally offset by older systems going out of the inventory. Storage of old systems causes workloads.

19

"MEADS" Maintenance Bulletin, Vol. V, No. 2, April 1975, pp. 5-6.

Weapon System Management Function

(U) Recognizing the weapon system management responsibilities inherent particularly in the missile and aircraft commodity areas of maintenance management, and mission and functions of the Division, (AMCR 10-2) was revised in FY 1975 to reflect "system" as well as "commodity" responsibilities.

Improved HAWK Conversion of Pueblo Army Depot

(U) Pueblo Army Depot completed the FY 1975 portion of the conversion program for Improved HAWK at a total cost of \$15.7 million. Added costs above original estimates were encountered during the year due to shortages of parts and the condition of assets received for conversion.

AN/MYO-2 Software Support

(U) The AN/MYO-2 (known as TADS for Tactical Automatic Digital Switch) is an automatic message/data switch which will be replaced by the message switch portion of the AN/TTC-39. Two were leased with USAREUR O&MA funds and later were procured under an option on the contract. The contractor has provided software support but is reluctant to continue such support. US Army Communications Command normally is to provide software support for deployed communication systems but did not desire to support the AN/MYQ-2. Accordingly, ECOM recommended that they provide software support for the two AN/MYO-2's. A cost analysis substantiating their recommendation was submitted along with their proposal and AMC subsequently approved the transfer of function and initiated appropriate budgeting action.

Three Levels of Maintenance Support for Aircraft Systems

(U) The "three level maintenance concept" was approved late in 1973 for adoption on the new Iranian Bell 214 aircraft and was quickly followed for the AAH and UTTAS. DA then instructed AMC to incorporate the "Three Level Concept" on existing aircraft. TRADOC was directed to commence revising TOE's for Army aviation units to the three level concept simultaneously. Previously, a world-wide coordination conference convened on 4 Mar 74 and all Maintenance Allocation Charts (MAC) were reviewed and completed in accordance with AMCR 319-3 by 14 Mar 74. In a meeting with AVSCOM, 16 Apr 74, it was agreed that all changes resulting from the new MACs could be completed by mid-CY 1975. The major areas affected were provisioning changes, RPSTLS, maintenance manuals, and publication of the new MACs in manuals. AVSCOM was given the coordination task. Shortage of funds, other priority work and severe travel limitations caused some slippage in implementation plans for FY 1975. Renewed effort was generated and more progress was expected in FY 1976.²⁰

Revised Aircraft Inspection Criteria

(U) DA directed AMC/AVSCOM to reduce field maintenance man-hours and increase operational readiness by revising Aircraft Inspection Procedures/Requirements. DA expected this to be some form of progressive maintenance system with segments of inspection spread over several days rather than all at once and grounding aircraft for long periods of time for the inspection. This system was used by airlines and certain USN training commands, as well as USAAVNS at Ft Rucker, Alabama. In addition, analysis of current inspection requirements against actual repairs/removal of parts should enable reduction in inspection man-hours by deferring repeated inspections and making others only to eliminate anticipated problems. Such analyses have not been made on Army aircraft since 1951, except at USAAVNS.

UX/CX(C-12) Logistic Support Requirement

(U) In December 1973, DA confirmed that the total logistic support for this aircraft would be provided within OMA P7M program funds. This included parts, labor and facilities for all levels: Organizational, Direct Support, General Support and Depot. Procurement of these aircraft has begun and AVSCOM has been requested to develop a Materiel Fielding Plan (MFP).

Aircraft Condition Profile/On Condition Maintenance

(U) In January 1972, DA requested AMC to evaluate, justify, or revise the five year cycle overhaul requirement for peacetime operations of Army aircraft. The study was completed by USAAVSCOM and the following recommendations were approved by AMC and DA: aircraft would be selected for return to depot based on individual aircraft condition and the economics of field support (downtime for maintenance) as shown in Fleet Management Data; and selection would be based on an Aircraft Condition Profile (ACP) derived by actual inspection, and on analyses of field reported maintenance and flight data. Full implementation for all aircraft had not been completed by the end of FY 1975. This profile (OCM) concept was to be continued annually.

Maintenance Support for 2B24(UH-1) Synthetic Flight Training System (SFTS)

(U) Synthetic Flight Training System (SFTS) model 2B24 for UH-1 helicopter was developed and type classified Standard. The first item, prototype, was in use at Aviation School (AAVNS), Fort Rucker since about May 1972. It was completely supported by contract with Singer Corp. through Naval Training Device and Center with delivery beginning March 1974. Eight more were planned for FY 1975 procurement. ACSFOR provided a schedule of 24 for CONUS and OCONUS (Europe, Alaska, Korea and Hawaii). BOI required 33. AAVNS has contracted for support for FY 1975. AVSCOM was to assume total support in FY 1976.

Vehicles-Troop Support-Armament

(U) There was a major reorganization of the Vehicles, Troop Support and Armaments Division during FY 1975. The Weapons Branch was combined with the Ammunition Branch on 12 February 1975 and organized in the TDA as the Armaments Branch. The Vehicles, Troop Support and Armaments Division end of year FY 1975 strength was one military and 22 civilian spaces with 19 civilians on board. Personnel turbulence, retirements, sick leave, annual leave, military leave, and TDY plus the consolidation of the Weapons and Ammunition Branch, in addition to the consolidation of the Vehicles Branch and Troop Support Branch the previous year, caused increased workload on individual action officers. This increased workload reduced the time available for research of problems and pre-empted time from planning improvements of operations, and monitoring of commodity commands and depots.

Army Tire Program

(U) In January 1970, the General Accounting Office (GAO) reported that the Army and Air Force was disposing of tires through Property Disposal rather than retreading. Based on a survey in Europe the GAO estimated that 75 percent of the tires could be retreaded. The Department of the Army, in a letter 5 August 1970, to all major commands, established a target objective of 75 percent utilization of retread tires rather than the use of new tires. AMC realized the potential to save dollars, raw materials, and to reduce the ecology problems of tire disposal with an aggressive tire management program. To assist the major commands in achieving the DA objective, AMC provided technical survey teams and training programs world-wide to render assistance, provide guidance, and make recommendations to improve their tire retread program. On 15 January 1971, AMC published a revision to the November 1956 TM on DS & GS tire maintenance and retreading. This TM documented the latest state-of-the-art in retreading, including tools, equipment, and procedures. AMC formalized the new emphasis in a world-wide tire retread program, which placed responsibilities, provided technical guidance, and developed a reporting system in AR 750-36 which was published on 6 July 1971.

(U) On 8 September 1971, the Assistant Secretary of Defense requested the Army take the lead role in drafting a joint regulation on tire management. On 17 February 1972, AMC forwarded the draft joint regulation to DA for approval. Technical manual "Standards for Inspection of Tires" was published on 12 July 1972. This TM advised the field of their responsibilities of tire maintenance, established direct exchanges as a necessary control, provides inspection and repair standards and offers training courses on inspection and classification. By 30 June 1972, the Army through AMC efforts, had brought the utilization of retreads from 28 percent in June 1970 to 69 percent. This achievement, which exceeded the DA milestone goal of 60 percent, was recognized in a congratulatory letter from Department of the Army Acting Chief of Staff.

To keep the emphasis on the retread program, on 24 November 1972, AMC published a Technical Manual on Organizational Care, Maintenance, and Repair of Pneumatic Tires. On 30 April 1973, a visual guide for technical inspection and classification of tires was published in the form of pocket-size Technical Manual. On 30 January 1974, an updated AR 750-36 was published which established more detailed responsibilities, and provided a major command reporting summary to be used as a management tool for monitoring their program.

(U) After numerous follow-ups with DA on the status of the draft Joint Regulation on tire management, AMC was advised that the Joint Regulation would be forwarded for DOD approval before 31 December 1974. AMC believed this joint regulation was needed to receive the cooperation of the Navy and Air Force. TACOM was assigned as the DOD integrated tire manager; however, TACOM lacked knowledge of the utilization of retreads with the other services. DA requested TACOM not to hold joint service meetings until the joint regulation was approved.

(U) During the past five years, the Army has retreaded over 1.5 million tires, and has increased the utilization of retreads from 28 percent to 80 percent. The report for the 6-month period ending in December 1974, reflected a drop to 70 percent which was the result of RVN not reporting. Their normal production of retreads was 60,000 tires per 6 months. During this period, the Army retread program resulted in a direct savings of \$40 million and the additional savings of \$5.8 million in overseas shipping, \$3 million in petroleum costs, and \$757,000 in disposal cost for a total savings of \$49.5 million. The majority of retreading was performed by commercial contractors, under the contract surveillance of GSA and technical surveillance of TACOM. Only 7 percent of the retreading was performed by AMC Depots, Red River and Tooele. RRAD concentrates on tactical vehicle tires and TEAD on off-the-road tires. This capability was required to maintain a mobilization base, stay abreast of the state-of-the-art, and to provide a training cadre for inspectors, instructors, and survey teams. Key tire specialists were used to monitor commercial retread facilities and assist posts, camps, and stations with the tire program.

(U) At the request of AMC, TACOM developed a computer program to simplify tire reports and to provide the NICP and major commands a better management tool for the monitoring of the tire program. This computer program was provided to major commands for comment on 16 January 1975. Based on favorable comments from the major commands, TACOM, on 23 May 1975, provided the major commands a formalized computer program for implementation on a test basis for the report due as of 30 July 1975. Should the computer program prove successful, AMC plans to provide the program to the Army System Command for review. If approved, AR 750-26 would be changed to include this method of reporting. At the end of the FY 1975, DA had not forwarded the joint regulation on tire management to DOD due to a non-concurrence received from the Air Force and Navy on reporting the number of tires retreaded. DA unofficially requested AMC to try to get concurrence through the Maintenance Inter-service Support Management Office (MISMO) channels. Complete documentation from OSD was provided MISMO on 11 June 1975.

Tank Track/Roadwheel Program

(U) Approximately 10 years ago, AMC stopped overhauling tank and roadwheels as it proved not to be cost effective. At the request of AMC, the Tank Automotive Command (TACOM), in coordination with Red River Army Depot (RRAD), developed a Depot Maintenance Work Requirement (DMWR) for tank track and roadwheels. These DMWR's which incorporated improved standards and procedures were completed in May 1974. In view of the rising costs of new track and roadwheels, AMC, in April 1974, requested that TACOM perform a cost effective study and where economical to start an overhaul program. As the result, RRAD, during the last year overhauled 47,000 roadwheels and 282,570 track shoes for a savings of over \$10.2 million. The T97E2 track for the M60 tank was under test at Aberdeen Proving Ground at the end of FY 1975. Should this overhauled track prove successful, a larger program was anticipated for the following year.

Vehicle Corrosion Control Program

(U) Tank Automotive Command (TACOM) briefings on vehicle corrosion to the AMC Commander and the Chief of Staff, US Marine Corps in February 1974 brought to light a need for a coordinated program between AMC and USMC for the corrosion control of tactical wheeled vehicles. The Maintenance Directorate AMC provided TACOM necessary guidance and asked them on 7 March 1974 to undertake the joint program to resolve the corrosion problem. An advisory group was developed and held its first meeting on the 24 April 1974 at TACOM with representatives from the Army, The Marine Corps and Ford Motor Company. The initial efforts were concentrated on the $\frac{1}{2}$ Ton Truck (M151) since this vehicle appeared to have the most serious corrosion problem because its unitized body construction. The advisory group plan addressed both a new production seeking to prevent rust, and fielded vehicles to stop rust. TACOM's milestone plan for accomplishing the program was approved by AMC in May 1974. A memorandum of agreement with the Marine Corps as a joint program drafted by the advisory group in June 1974 was approved by AMC in July 1974 and by USMC in August 1974.

(U) TACOM and the Ford Motor Company developed a specification of material and procedure which was implemented by AM General on new production (M151) vehicles in September 1974. More than 19,000 fielded and depot stock vehicles for the Army and USMC at fifteen locations within CONUS were inspected to determine the extent of corrosion on commercial and tactical vehicles. After salt spray testing of the M151 at Ford Motor Company proving grounds, a specification for corrosion retardation of fielded vehicles was developed and approved by the advisory group in October 1974. Chrysler and Tuff-Kote compound meets the specification for fielded vehicles and was applied to 50 Marine Corps vehicles at Camp LeJeune during November 1974 and on 50 Army vehicles at Fort Dix to demonstrate the procedure and test the training program package.

(U) During December 1974, TACOM inspected 1,500 vehicles in the hands of troops, depot and POMCUS stocks in the United Kingdom and Germany to determine the extent of corrosion on vehicles overseas. The USMC in January 1975 requested TACOM to provide a tooling and equipment package necessary to apply the corrosion compound to their vehicles, which was planned to be performed at six CONUS locations and in Japan, Hawaii, and Okinawa. During February 1975, TACOM evaluated the computer analysis of the 21,500 vehicles inspected. Contemporary planning at TACOM was to apply the corrosion preventative compound to all tactical vehicles from new production. During March 1975, three depots, Letterkenny, Red River and Tooele were provided necessary equipment, compound and instructions for processing the corrosion retardant compound to tactical vehicles after overhaul.

(U) On 19 March 1975, the Conversion Control Advisory Group met at TACOM to review the cost effectiveness of applying the compound to fielded vehicles for the Army and Marine Corps, and to develop recommendations. The Advisory Group recommendations were approved by the TACOM on 27 March 1975. This program was on schedule with the Army/USMC approved milestone plan. Attached MFR for Director of Maintenance dated 28 March 1975 provides details of the program.²¹

Tire Mounter/Demounter

(U) The troops in the Pacific area, as in other areas, encountered problems with tire demounter, NSN 4910-00-683-9382. This unit had a history of poor performance and reliability. The introduction of the tubeless tire, Dayton style rims, and new style wheels were major factors contributing to the problem. Procurement of the tire mounter was suspended in May 1973. As an interim measure, it was recommended that post, camps and stations establish a central tire servicing facility. This facility would use the DS/GS tire mounter/demounter that was available. An effort was then started to obtain an improved tire mounter/demounter for use at organizational level maintenance.

(U) Four commercial items that appeared to be satisfactory were selected and shipped to Fort Hood for test and evaluation by Project MASSTER (Mobile Army Sensor System, Test-Evaluation and Review) tire changer. It was designed to perform both tire mounting and demounting; Marshall Model 172, a portable, air-over-hydraulic, roll-over stand, truck tire changer developed to perform tire demounting only; Branick Model TTR, a portable, air-operated, truck tire changer designed to perform tire demounting operations only; Bishman Model 948, a transportable, air-over hydraulic, truck tire changer designed to perform tire demounting operations only.

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MFR, AMCMA-VC-L to Director of Maintenance, AMC, 28 March 1975 (with 13 Inclosures), subject: Vehicle Corrosion Control Program Among Holdings in Historical Office, AMC.

(U) Milestones for this program were:

12 Jun 75	Start MASSTER test and RAM evaluation (on schedule)
31 Oct 75	Complete test/evaluation
15 Jan 76	Complete procurement specifications
15 Jun 76	Award contract
Sep 76	Initial production of improved unit

Joint Regulation - Rail Maintenance

(U) The Army has the DOD responsibility for rail equipment. To insure that proper maintenance was performed by other users of Army rail equipment AMC prepared a draft regulation on the procedures and responsibilities of using units having rail equipment. Status at the end of FY 1975 was: the joint AR/AFR had been forwarded to DA for final approval and staffing with the applicable Air Force offices.

Fire Resistant Hydraulic (FRH) Fluid

(U) Starting 1 July 1974, a new fire resistant hydraulic fluid was put into production on the M60A1-AOS tank. Early in this calendar year, some tanks in Germany reported sticking power valves, which subsequently were traced to problems with the FRH fluid. This was a potential safety problem since the power spool valve could stick in the activated position, allowing "hot" gunners handles, even though the power had been turned off, as long as there was pressure in the accumulator. A task group was organized by Project Manager M-60 Tank (PM-M60) depth investigation of the problem, as an interim action the PM-M60, on 18 April 1975, dispatched a world-wide message requesting that all tanks having FRH be changed over to the old hydraulic fluid. Laboratory experiments were underway at the close of FY 1975 to analyze the FRH and to evaluate the sticking valve problems using the two different varieties of FRM. The last were being conducted at Fort Polk, Louisiana.

Logistics Support for M60A2 Tank Deployment

(U) Shipments of M60A2 tanks to Europe were begun in January 1975. The Maintenance Directorate monitored the status of logistics support for those vehicles. All required publications were initially available in USAREUR. As of 1 January 1975, there was 85 percentile in repair parts and 80 percentile in special tools and test equipment to support the first three battalions (Phase I). As of 30 June 1975, this had been increased to 95 percentile in repair parts and 97 percentile in special tools and test equipment with no zero balances in either category.

Proposed M551 Sheridan Support Office - USAREUR

(U) Due to the declining readiness rate (OR) of the M551 in USAREUR, the Commander, AMC directed that a M551 office be established USAREUR to provide support for the M551. As a result, a plan was developed and coordinated with USAREUR. The plan called for a control element consisting of a Major (OIC) and a System Analyst to be located in Heidelberg. The OIC would control the total M551 support program for USAREUR. Three engineers (one each from TACOM, ARMCOM, and MICOM) would be permanently assigned to monitor and coordinate design changes. Three to six engineers from the MSC's would also be available on a TDY basis to investigate the total systems problems. Following the identification of engineering problems, these engineers would return to their CONUS base to develop solutions, returning as needed to maintain checks. Supply personnel would be with each ACR, each CORPS Support Command and USAMMAE to assist in the collection of supply data, verify M551 requisitions and expedite repair parts from source to units. The TACOM M551 Project Office has prime responsibility for the plan and its implementation.

(U) Before the end of FY 1975 the M551 Field Office OIC, Major Leon Ashbaker, was in Heidelberg. The System Analyst and the engineers from TACOM and ARMCOM had been selected and were to be in-country about 15 June 1975. Three of the five supply positions had been filled. One candidate's PCS was effective on 20 May 1975, the other two would have a PCS of about 23 June 1975. Until all the positions were filled and the personnel in-country the MSC's have identified Field Maintenance Technicians and Supply Specialists already in-country to assist the M551 Office.

CHAPTER X

HIGHLIGHTS AND TRENDS

Introduction

(U) At the beginning of FY 1975, AMC consisted of 144 installations, subinstallations, and activities housed in 46,408 buildings totalling 225,876,000 square feet located on 4,484,736 acres with a plant value of installations equal to \$3,503,680,000.¹ General Henry A. Miley was in command of the vast US Army logistics complex; he had commanded AMC since December 1970.

(U) At the close of calendar year 1974, General Miley, who was about to retire, sent his customary "New Year's Letter" to the Chief of Staff of the Army. In his greeting, General Miley recalled certain trends that accompanied his tenure at AMC. He told General Fred C. Weyand that AMC was continuing to prune and trim the AMC structure with the view of releasing AMC funds and spaces to the combat elements of the Army. In this regard, General Miley pointed out that during the period of December 1969 through December 1974 AMC had reduced its military personnel from 14,325 to 9,880 and its civilian strength from 162,858 to 117,730. For General Miley's AMC Headquarters Staff, similar significant reductions were made during the five-year period. Headquarters, AMC civilians declined by 875 to 1838 and military by 151 to 246 leaving a combined manpower force of 2,084 at end of December, 1974. The AMC commander reminded the Chief of Staff that despite the fact that AMC had been in a continuous state of restructuring and reduction over the preceding five years, solid accomplishments had been achieved. General Miley, in this letter which was actually a farewell to the Army, cautioned General Weyand that future restructuring under the AMARC proposals should be implemented with care as to the rate of change to assure a continued improvement in the AMC acquisition structure.²

(U) By 30 June 1975, AMC personnel (civilian plus military) strength declined to 18.5% below the 1 July 1970 strength. The AMC total strength declined from 156,400 in 1970 to 127,400 in June 1975. AMC headquarters declined from about 2,700 in June 1970 to about 2,100 in June 1975.³

¹AMCP 210-1, HQ, USAMC, Alexandria, VA, 11 August 1973.

²Letter, AMCCG, General Henry A. Miley, Commander, AMC, to General Fred C. Weyand, CofS Army, 30 January 1975, re: AMC Accomplishments Calendar Year 1974 (C).

³"Data on Activity Trends in AMC," AMC Comptroller, 30 June 1975, p. VII-1.

Activity Trends

(U) It has been the practice of AMC to measure the actual performance of its mission responsibilities against assigned goals or performance targets compared with previous compatible reporting periods. The mission areas measured in FY 1975 included: Research, Development, Test and Engineering (RDT&E); Requirements and Procurement; Supply; Maintenance; and Personnel.

RDT&E

(U) In the RDT&E area, a total of 283 technical objectives were completed during FY 1975. This was an increase of 97 technical objectives, or 52% over FY 1974. It was also a significant improvement over FYs 1972-1974. The 283 RDT&E technical objectives comprised 68% of the adjusted schedule excluding cancelled objectives giving a net performance of 88%. Command wide, the separate AMC laboratories and MICOM achieved the AMC goal of 85%, the remainder of the commands and HQ Project Managers, while showing improvement over FY 1974, did not. Program authority for FY 1975 was \$85 million higher than in FY 1974 (\$1,649 versus \$1,564 million). The FY 1975 obligation rate was 96.3% or 1.5% above the FY 1974 rate of 94.8%, even though there was an increase of 5.4% of \$85 million in program availability. Except for HQ AMC elements and TROSCOM, all commands (ARMCOM, AVSCOM, ECOM, MICOM, TACOM, and TECOM) showed an improvement in their obligation rate.⁴

⁴For specific figures, see charts contained in Data on Activity Trends in AMC, AMC Comptroller, 30 June 1976, pp. III-2 to III-5, in AMC Historical Office collection of Historical Sources.

NOTE: There is a discrepancy here regarding Technical Objectives/Technical Milestones achieved. The USAMC pamphlet entitled "data on Activity Trends in AMC" prepared by Comptroller Review and Analysis Division for 30 June 1975 cites (PIII-2) 68% of 283 RDT&E technical objectives accomplished whereas the CAMERA FEEDBACK, 4-76, "AMC Overall Performance Indicator Review and Analysis (OPIRA), Fiscal Year 1975" prepared by the Review and Analysis Division, Comptroller, HQ, USAMC cites (P. 2, Chart 2) 65% R&D Technical milestones (scheduled objectives) achieved in FY 1975. The CAMERA FEEDBACK is a tool devised by the AMC Comptroller to keep the AMC Command Group and key personnel abreast of major mission accomplishments in AMC. The indicators used cannot be assumed to yield exact and precisely accurate figures in all cases; however, they are the best means of measurement of AMC mission performance that could reasonably be devised. However, the AMC Comptroller Directorate views the CAMERA more as a concept for measuring activities rather than as a means for precise performance ranking of AMC subordinate commands, installations, and activities.

Requirements and Procurement

(U) In the requirements and procurement functional area, the FY 1975 PEMA (Procurement of Equipment and Missiles-Army) Release Program, of \$6.1 billion was \$1.4 billion greater than the FY 1974 program of \$4.6 billion. The program increase came late in the 4th Qtr of FY 1975, accordingly, the percent awarded slipped. Considering the large program increase, AMC's performance was considered very satisfactory in that approximately 70% of the program was awarded compared to FY 1974 when the contracts awarded equaled less than 60% of the released PEMA program. In price competition for contract awards, AMC achieved its FY 1975 performance goal of approximately 33% command-wide of a total of \$4.84 billion. In the area of small business contract awards AMC also achieved its performance goal in FY 1975 exceeding its FY 1974 effort by some 11%. ARMCOM, AVSCOM, MICOM, and TROSCOM all showed improvement. The AMC total of small business awards in FY 1975 was approximately 16% of the total \$14.7+ billion of awards to all firms. In the production area, PEMA base line items delinquent from production at the end of FY 1975 was 4.7% as compared to the FY 1974 ending rate of 6.5%. An increase in delinquencies through the fiscal year reaching peaks of over 10% in August and just under 10% in December, before leveling off at the 4.7% year end level were caused first by an increase in program and second by industrial problems throughout the manufacturing industry. At the end of FY 1975, there were 139 items in production AMC-wide. MICOM had the lowest percentage of items delinquent and TROSCOM the highest.⁵

Supply and Maintenance

(U) Stock Availability and Materiel Obligations Outstanding. In the area of total stock availability, measures in accordance with a percentage of stocked items requisitions shipped on first availability check, the overall performance of FY 1975 improved over FY 1974. Although no command achieved the goal of 85%, improvements were made by TACOM, TROSCOM, AVSCOM, and ECOM with ARMCOM and MICOM having slipped slightly. Of a total of 2,435,348 demands, AMC shipped approximately 78% requisitions on the first availability check. NORS (Not Operationally Ready Supply) demands increased in FY 1974 from 119,190 to 167,939 in FY 1975 contributing to a slight slippage of 2% of stocked items requisitions shipped on first availability check. No command met the AMC goal of 85%; however, approximately 76% of NORS demands requisitions were shipped on the first availability check AMC-wide. Materiel obligations outstanding as of the end of FY 1975 showed improvement with an AMC overall decrease of approximately 18%. However, ECOM showed a 1% increase in outstanding obligations and ARMCOM showed a 7% increase in this area, both considered below acceptable

⁵Ibid.; pp. IV-1 to IV-5.

performance levels. For NORS items, all commands exceeded the AMC established ceiling for obligations more than 90 days old except TACOM; however, all commands except AVSCOM and MICOM reported reductions in backorders compared to 30 June 1974. In obligations outstanding for maintenance parts, all commands exceeded performance. Backorders at all commands except TROSCOM decreased compared to the 31 December 1974 position. Overall, AMC had a total of 178,000 backorders for stocked items outstanding at the end of FY 1975 which was slightly above the target ceiling of 176,000.⁶

(U) Requisition Processing. In FY 1975, AMC, as a whole, processed 1,483,881 total lines on-time for immediate issues requisitions. This performance was slightly better than in FY 1974; however, with the exception of TACOM, all commands failed to meet the assigned goal. The problem at most of the commands was cited as the implementation of ALPHA (AMC Logistics Program Hardcore Automated) during the year. MICOM's problem was caused by a transition from low to high density items. AMC processed approximately 85% of its requisitions on time from the total supply source. This was short of the 91% goal. On-time requisitions from NICPs attained approximately 93%, falling about 3% below the FY 1975 target.⁷

(U) Materiel Release Orders. The processing of Materiel Release Orders (MRO) through the depots improved in FY 1975 over FY 1974 with only two exceptions, New Cumberland and Red River. Anniston, Corpus Christi, Letterkenny, Lexington-Blue Grass, Pueblo, Sharpe, Tobyhanna, and Tooele all exceeded the assigned goal of 96% on-time MRO processing. Sacramento barely missed the target. Of 2,024,377 thousand lines processed, AMC processed approximately 94% on time, missing the established goal by about 2%.

(U) Materiel Release Denials. Of 2,772,130 MROs received, only Pueblo Army Depot broke through the AMC ceiling of 1.5% denial rate. The AMC denial rate as a whole was about 1.3% which was an improvement over the FY 1974 rate of 1.5%. Pueblo's poor rate of denials, about 2%, was caused by delays in posting reclassification codes and reporting of erroneous quantities on receipts.⁹

⁶(1) Ibid.; pp. V-1 to V-6; (2) CAMERA FEEDBACK, AMC Overall Performance Indicator Review (OPIRA) FY 1975 4-76, Review and Analysis Division, Comptroller, HQ, AMC, 23 October 1975, p. 13

⁷Ibid.; pp. V-7 to V-8. The DCG, LTG W.W. Vaughan, was not accepting the implementation of ALPHA as an excuse for not meeting supply objectives as late as FY 1975. (Author's notes of CAMERA FEEDBACK (5-76) October 31, 1976).

⁸Ibid.; p. V-9.

⁹Ibid.; p. V-15.

(U) Depot Level Maintenance. The rate of depot maintenance items completed continued to improve. In comparing the 2d half of FY 1975 with the first half of FY 1975, of 443,534 units scheduled for maintenance in the second half, AMC depots completed 80%, compared to approximately 76% of scheduled items in the first half. Only Lexington-Blue Grass, Red River and Tobyhanna showed a decline when compared with the first half of FY 1975.¹⁰

(U) Depot Maintenance Program Changes. Depot Maintenance Program changes per 1,000 PRONs (Procurement Request Order Number) issued were reduced in FY 1975 by 14% compared to FY 1974 (79.5 versus 68.3). The total number of changes was reduced 47% (6,914 in FY 1974 versus 3,677 for FY 1975). The number of PRONs issued was reduced from 8,700 in FY 1974 to 5,383 for FY 1975, a reduction of 38%. ARMCOM, ECOM, MICOM and TACOM did not achieve their assigned FY 1975 goals. ARMCOM and TACOM experienced increases in the number of changes issued per 1,000 PRONs. The causes for depot maintenance program changes, a continuing cause for concern to AMC, were numerous and varied. For example, often, assets or parts would not be available during the PRON year. Also, many changes would be directed by higher headquarters because of fund guidance changes or higher headquarters directed requirements changes. Some programs would be cancelled due to excess or obsolescence. And contract diversions back and forth from organic to contract and contract to organic was also a cause for program changes. Command-wide, during FY 1975, AMC expended approximately 73% of its 693,522,000 depot maintenance program. Corpus Christ, Sacramento, and Pueblo all expended about 80% of their program while Red River expended less than 60% of its program. All other depots ranged between.¹¹

International Logistics

(U) AMC had \$4.4 billion of undelivered orders carried over from FY 1974 to FY 1975 which was \$.6 billion more than the amount of undelivered orders carried into FY 1974. In FY 1975, AMC carried over into FY 1976 major undelivered orders to the following countries: Iran - \$2.1 billion for helicopters, missile systems, ammunition and other equipment; Israel - \$1.1 billion for weapons, ammunition, missile systems and vehicular equipment; and Saudi Arabia - \$5.2 billion for weapons, ammunition, missile systems, vehicular equipment, and other equipment. This also included \$4.3 billion for Corps of Engineers.

(U) Requisitions processed for military assistance for FY 1975 decreased 53% to 156,500 compared with FY 1974. Requisitions processed for Foreign Military Sales increased 16% to 539,700 as compared with

¹⁰Ibid; p. V-16.

¹¹Ibid; pp. V-17 to V-18.

FY 1974. Progress in customer satisfaction was noted in a comparison of FY 1974 item discrepancy reports (5,577) with FY 1975 (2,952). This represented a decrease of 47% in item discrepancies. There was a corresponding decline in dollar value of item discrepancies from about \$5.7 million in FY 1974 to \$4.9 million in FY 1975. The most prevalent discrepancies involved financial problems, wrong quantity, wrong materiel, and lost shipments.¹²

Equal Employment Opportunity

(U) Overall, there was an increase of .4% in the strength of women in AMC. In FY 1975, the proportion of minorities increased .5% with all commands showing an increase except TACOM. Most depots showed an improvement in employment of women and minorities. The largest changes in proportion of women in the work force were at Anniston, Letterkenny, New Cumberland, Sharpe, Seneca and Sierra where all shared increases. Pueblo, Red River and Savanna reported decreases. For minorities only, Tobyhanna and Seneca reported decreases.¹³

Performance Effectiveness Summary

(U) In measuring performance, AMC makes a distinction between effectiveness and efficiency. Effectiveness measures performance of various activities. For example, a measure of effectiveness indicates whether supplies were shipped on time in response to user requirements. Efficiency, on the other hand indicates whether, in accomplishing the work, AMC did so with relatively more or less resources than were used in the past or than should have been used. AMC used the two approaches in a complementary fashion to gauge AMC's work performance. In measuring effectiveness, AMC looks at Materiel Acquisition, Logistics Support, Civilian Personnel Management, Equal Employment Opportunity, and then from an analysis of the statistics in each area makes general summations of overall commodity and depot effectiveness. AMC evaluated its command-wide effectiveness for FY 1975 as follows:

(U) Materiel acquisition areas achieving a good (G) performance or showing improvement (I) were: RDT&E obligation rates (G), competitive procurement (I), on-time delivery of intensively managed items (I), and small business awards (G). Real or potential problems were noted in the completion of R&D technical milestones and in PEMA contract awards.¹⁴

¹²Ibid; pp. V-1 to V-4.

¹³Ibid; pp. VIII-1 to VIII-2.

¹⁴CAMERA FEEDBACK "AMC Overall Performance Indicator Review and Analysis (OPIRA), FY 1975 (4-76), Review and Analysis Division, Comptroller, HQ, USAMC, 23 October 1975, chart 8.

(U) In logistics support, areas achieving good (G) rating or showing improvement (I) were: composite operational readiness (G) for ECOM and AVSCOM, (I) for other commands, requisition processing at ICPs (I), and materiel release denials (G). Areas that were good (G) or improving with exceptions included: stock availability (I) except for MICOM and ARMCOM, backorders (I) except for ECOM and ARMCOM, depot MRO processing (G) except for New Cumberland Army Depot and Red River Army Depot, transportation (I) except for Sharpe Army Depot, depot maintenance program changes (I), and maintenance reject rates (G) except for Corpus Christi Army Depot and Sacramento Army Depot. Real or potential problem areas were considered to be: targets based on a five-day week for depots, stock availability at ECOM, supply source processing for AVSCOM and MICOM items and transportation at Sharpe and New Cumberland Army Depots.¹⁵

(U) AMC evaluates civilian personnel management by the use of a composite evaluation factors index which compares each element's standing with either a DA-wide or an AMC-wide average of 27 different criteria encompassing such things as: voluntary loss rate, performance recognition, suggestion program, career program, and training. These criteria are weighted and rolled up to a composite index. Based upon such criteria, the AMC-wide performance evaluation in civilian personnel management was above the DA level in the 4th quarter of FY 1975 where it had been traditionally. However, the Headquarters index was significantly below average. The depots as a group generally looked good. Of the major subordinate commands, MICOM was back on top after a bad year and a half. ECOM was second after a period of substantial and continued improvement and TACOM, AVSCOM, and TROSCOM all ended the year above the DA average. TECOM and ARMCOM did not show up well but did show 4th quarter, FY 1975 improvements. Those activities with good (G) performance or improving (I) trends were: NATICK (G), Army Materiel Mechanics Research Center (I), and Harry Diamond (G & I) laboratories; MICOM (I), ECOM (I), and TACOM (I) major subordinate commands; and Savanna (G & I), Sharpe (G), and Sacramento (G & I) Army Depots. Real or potential civilian personnel management problems were found in Headquarters, AMC; Foreign Science and Technology Center; TECOM; Red River and Sierra Army Depots.¹⁶

(U) Performance evaluations made in the equal employment opportunity area presented a gloomy picture. It was found that for women over the GS-5 level the situation had worsened with only three depots showing at or above the goal performances. For minorities over GS-5, the situation had also regressed with only two major subordinate commands and six depots above the goal. In the wage grade area, WG-5

¹⁵Ibid; Chart 29.

¹⁶Ibid; pp. 24-26 and charts 31-35.

and over, minorities improved their position. AMC met the overall goal but there were many exceptions. The situation regarding minority WG supervisors ended the year much poorer with few exceptions. The composite for AMC overall in equal employment opportunity was judged to be significantly deteriorated. Specifically, of the major subordinate commands none reached the goal but ARMCOM, TACOM and TROSCOM had improved. For the depots: Savanna, Seneca, Sharpe and Sierra exceeded the established goal; Anniston and Red River improved slightly with all other depots worse or much worse. HQ, AMC was better, but below the goal. Generally, average grade relationships, with few exceptions, had worsened.¹⁷

(U) Overall performance highlights for FY 1975 indicated that AMC had improving trends in the areas of: competitive procurement, delivery of intensively managed items, operational readiness, NICP requisition processing, stock availability, backorders, depot MRO processing, and maintenance program changes. AMC scored well in materiel release denials and maintenance reject rates. Real or potential problems persisted in completion of R&D milestones, supply targets based upon 5-day work week at depots, and equal employment opportunity.¹⁸

(U) Rating the major subordinate commands in the areas of materiel acquisition, logistical support, personnel management produced the following descending order: MICOM, AVSCOM, TACOM, ARMCOM, TROSCOM, and ECOM. Previous year positions were: MICOM, TROSCOM, ARMCOM, TACOM, ECOM, AVSCOM.¹⁹

(U) The AMC depot performance ratings for Supply, Maintenance, and personnel management indicated the following descending order for FY 1975: Anniston, Sharpe, Lexington-Blue Grass, Tooele, Corpus Christi, Tobyhanna, Pueblo, Letterkenny, Red River, Sacramento, and New Cumberland. The previous year positions were: Lexington-Blue Grass, Anniston, Tooele, Letterkenny, New Cumberland, Tobyhanna, Sharpe, Red River, Pueblo, Corpus Christi, and Sacramento. The ammunition depots were rated only in supply and personnel management (they have only minor maintenance functions) and performed as follows according to the evaluation system: Savanna, Seneca, and Sierra. The previous year it was: Seneca, Sierra, and Savanna.

(U) The AMC Comptroller presented the FY 1975 AMC Overall Performance Indicator Review and Analysis (OPIRA) CAMERA (Command Management Review and Analysis) to the AMC Deputy Commander, LTG W. W.

¹⁷Ibid; charts, 40, 41.

¹⁸Ibid; Chart 42.

¹⁹Ibid; Chart 44.

Vaughan, on 23 October 1975. At this briefing, General Vaughan commented on AMC problems and showed particular concern regarding the measurement of R&D performance. General Vaughan did not believe that tracking technical milestones gave a clear and full analysis of R&D accomplishments. This was a continuing complaint of General Vaughan, who stated at a similar briefing of performance efficiency one week later that he had been defeated in the R&D management area. He was particularly anxious to get a handle on progress in the major AMC projects, and he specifically mentioned the "Big Five" which at the time encompassed the XM-1 Main Battle Tank, Advanced Attack Helicopter (AAH), Utility Tactical Transport Aircraft System (UTTAS), Mechanized Infantry Combat Vehicle (MICV), and Surface to Air Missile (SAM-D). General Vaughan thought that project management was improving.²⁰

(U) Addressing the depot problem, General Vaughan stated his belief that MIDA (Major Item Data Agency) should monitor the depot workloading program, and decide "what depots should do what," and also that MIDA should look at changes in the depot maintenance program to determine their necessity. He said that MIDA could be the regulatory agency for the depots.²¹

(U) The monumental problems in the area of EEO also perplexed General Vaughan and his directors, most of whom attended the performance appraisal. He asked that more data be compiled concerning the program.²²

Performance Efficiency Summary

(U) Since its activation in 1962, AMC had customarily assessed its accomplishments through an annual review and analysis of its program. These reviews were a measure of effectiveness of AMC operations. Beginning with FY 1975, the AMC Comptroller introduced a new system for measuring the efficiency of AMC functions and mission accomplishments as an additional indicator of performance for consideration by AMC managers. The first AMC efficiency review was presented to General Vaughan, the AMC Deputy Commander, and the AMC directors on 31 October 1975. The efficiency review covered commodity command and depot efficiency trends since FY 1972 with emphasis on changes from FY 1974 to FY 1975. Whereas the effectiveness reviews were a measure of performance of total mission accomplishments alone, the new measure of efficiency compared these accomplishments in relation to resources

²⁰(1) Ibid.; p. 1 and author's notes; (2) Author's notes of AMC CAMERA Feedback 5-76, 31 October 1975.

²¹Ibid.; author's notes of briefing.

²²Ibid.; author's notes of briefing.

(manpower and dollars) supporting these accomplishments. The two measures were complimentary. For each command, base operations, supply, maintenance, and procurement were considered. The depots had no comparable procurement mission, but were measured in the other categories. The ammunition depots, which do not perform maintenance, were only measured for base operations and supply.

(U) In measuring base operations at commodity commands, ARMCOM was the only command that had an increase in efficiency in FY 1975 over FY 1974. All other commands declined and TROSCOM slipped to a level below the base year, 1972. The TROSCOM workload had gone down 14%, while its manpower declined only 3%. At ECOM, manpower used rose about 5% and workload, in the form of personnel supported went down nearly 16%, accounting for a sharp decline in its efficiency index. For the depots (except ammunition depots), the changes were much smaller than for the commands, but the general trend was down. Improvements in base operations efficiency were made only at Lexington-Blue Grass, Pueblo, Sharpe, and Tooele. Despite a major decline, Red River had the highest index of efficiency. Both Corpus Christi and Letterkenny, which had the greatest declines, increased the number of people working in base operations in FY 1975 while supporting a lower number of military and civilian personnel which caused a major regression in their efficiency indices. For the ammunition depots, only Seneca was at a higher level of efficiency than it was in the base year of 1972. Seneca also showed improvement from FY 1974. Savanna showed a significantly improved efficiency rating in FY 1975 which was caused primarily in a 20% increase in the number of personnel supported combined with a small decrease in man years used. At Sierra, the workload had seen a continuing decline (28%) with a smaller drop in manpower, and little change in dollars, accounting for a significant drop in its efficiency index.²³

(U) Command Supply efficiency was based upon supply control studies and requisitions processed. Most of the commodity commands showed improvement in supply efficiency in FY 1975, except for ECOM with no appreciable change and MICOM where a somewhat larger decrease in efficiency occurred. MICOM resources expenditures changed little, but the numbers of supply control studies and of requisitions processed declined below the FY 1974 level. Depot supply was measured by short tons received and shipped and short tons in storage. Only two depots, Sacramento and Tobyhanna, were below their FY 1972 base year level, and both depots looked worse in FY 1975 than in FY 1974. Other declines in FY 1975 were relatively minor and there were some fairly significant improvements in efficiency. Five of the depots increased efficiency

²³CAMERA FEEDBACK, AMC Efficiency Trend and Effectiveness Performance Evaluation, FY 1975 (5-76), Review and Analysis Division, Comptroller, HQ, AMC, 31 Oct 75, pp. 3-5, charts 6-8.

from FY 1974 to FY 1975, but New Cumberland Army Depot and Sharpe Army Depot, the East and West coast secondary item distribution depots, were among those with lower efficiency indices. All three of the ammunition depots were well above the FY 1972 level, but Savanna was the only depot to show improvement over FY 1974. This was the result of a major reduction in dollars applied to supply activities and was accomplished despite relative manpower stability.²³

(U) The Command workload factors for measuring maintenance efficiency were publications, pre-issue items, and fielded items supported. With the index representing input-output relationships compared with the base year of 1972, and with scores of more than one (1) reflecting improvement and those below one (1) indicating slippage in productivity in the maintenance area, ECOM was the only command with an index lower than one (1) and it had also slipped from FY 1974. ARMCOM and MICOM had also slipped, while the other commands improved. Depot maintenance workload was measured by the quantity of equivalent items completed factored to permit meaningful comparisons. Only four of the depots ended FY 1975 with an index greater than one (1), meaning that seven of the depots performing maintenance functions were less efficient than in FY 1972. The depots improving in maintenance efficiency over FY 1972 were Lexington-Blue Grass, Sacramento, Sharpe, and Tobyhanna. Also, eight of the depots were less efficient in FY 1975 than in FY 1974. In the procurement area, where the measures used were line items processed and numbers of procurement actions, four of the commodity commands showed major gains in procurement efficiency. Two commands fell: TACOM and TROSCOM.

(U) For the overall commodity command summary level, ARMCOM, AVSCOM, and TACOM all improved in FY 1975. ECOM and MICOM showed relatively small declines, while TROSCOM remained the only one of six commands whose overall summary level was below the base year of FY 1972 and still falling. Regarding the depots, three (Corpus Christi, Sacramento, and Tobyhanna) had a lower efficiency overall than in the base year of FY 1972 and they were also less efficient than in FY 1974. Improvements in overall efficiency were recorded by Lexington-Blue Grass, Pueblo, Sharpe, and Tooele. The three ammunition depots were all above FY 1972 or base year efficiency levels; however, only Savanna posted a greater efficiency than in FY 1975. The overall picture showed gains over FY 1974 in efficiency at three commodity commands (two sizeable gains) and three virtually insignificant declines. The depot picture overall was not so good. The depots showed a worsening picture with nine declines, several of them sizeable, and five gains.²⁴

²³Ibid.; pp. 5-6, charts 9-11.

²⁴Ibid.; pp. 7-10, charts 12-17.

Combined Effectiveness and Efficiency (E and E) Summary

(U) The following nine charts indicate the performance effectiveness, efficiency, and the combined effectiveness and efficiency (E&E) rankings of the commodity commands, general depots, and ammunition depots for FY 1975. In developing the E&E ratings, the AMC Comptroller gave the most effective command or depot 50 points and the least effective 25 points. The same was done for efficiency scores. Thus, it was possible to get 100 points as a high score or 50 points as a low score in the combined E&E rankings. The first four commodity commands were bunched with MICOM at 89, ARMCOM and TACOM tied at 87, and AVSCOM in fourth place with 86. Only three points behind the leader. ECOM and TROSCOM were also close with 58 and 57 respectively in fifth and sixth place. In the general depot area, Lexington-Blue Grass finished on top with Sacramento on the tail end. The rankings of the ammunition depots for combined E&E found them rated relatively close together. For specifics of the various rankings, see Charts 1-9.²⁵

(U) General Vaughan offered several comments regarding the data presented in the CAMERA FEEDBACK (5-76) on 31 October 1976. The AMC Deputy Commander suggested that some of the subordinate commands and some of the depots had tended to receive preferential treatment in the past for a variety of reasons, including the fact that they had succeeded in making themselves look better or had influenced Headquarters, AMC managers by means other than quality of performance. General Vaughan cautioned the assembled AMC directors and office chiefs that they had to cease letting themselves be taken in by effective public relations and to treat all installations and activities even-handedly. General Vaughan also observed that there may have been in the past a failure within the AMC Headquarters to understand the special nature of electronics as a commodity, and therefore a lack of appreciation of special management problems at ECOM. Concerning depots, General Vaughan expressed his view that depot workload assignments should be reviewed to assure that the depot efforts were concentrated in those functional areas where they would be most effective and efficient and that every effort should be made to adjust workload changes, especially reductions, more promptly than had been done in the past. The Deputy Commander stated, as guidance, that depots should not be staffed for peak or high levels of workload, but rather for the low part of the workload curve and that surges in workload should be met through overtime and weekend work. General Vaughan viewed the Comptroller system of evaluating effectiveness and efficiency as a promising beginning in the evolution of a system for relating performance to the allocation of resources. He added that AMC still

²⁵These charts are taken from CAMERA FEEDBACK, AMC Efficiency Trend and Effectiveness Performance Evaluation, FY 1975 (5-76), Review and Analysis Division, Comptroller, HQ, AMC, 31 October 1975, Charts 18-26.

AMC OVERALL PERFORMANCE INDICATOR REVIEW

COMMODITY COMMAND PERFORMANCE SUMMARY

SELECTED INDICATORS
FISCAL YEAR 1975

<u>RANK</u>	<u>MAT'L ACQ'N</u>	<u>LOG SPT</u>	<u>PERS MGT</u>	<u>OVERALL</u>	<u>FY 74</u>
1	MICOM	AVSCOM	ARMCOM	MICOM	MICOM
2	AVSCOM	* TACOM	TACOM	AVSCOM	TROSCOM
3	TACOM	ARMCOM	* MICOM	TACOM	ARMCOM
4	ARMCOM	MICOM	TROSCOM	* ARMCOM	TACOM
5	* TROSCOM	ECOM	* AVSCOM	* TROSCOM	ECOM
6	* ECOM	* TROSCOM	* ECOM	* ECOM	AVSCOM

* * USING FY 75 WEIGHTS

* LOWER RANK THAN IN FY 74

CHART 1⁰

COMPTROLLER EFFICIENCY TREND EVALUATION SYSTEM

COMMODITY COMMAND EFFICIENCY SUMMARY

FISCAL YEAR 1975

RANK	<u>BASE OPS</u>	<u>SUPPLY</u>	<u>MAINT</u>	<u>PROC</u>	<u>OVERALL</u>	<u>FY 74</u>
1	ARMCOM	ARMCOM	MICOM	ECOM	ARMCOM	TACOM
2	TACOM*	TACOM	TACOM	AVSCOM	TACOM*	MICOM
3	MICOM	ECOM	TROSCOM	MICOM	MICOM*	ARMCOM
4	TROSCOM*	MICOM*	ARMCOM*	ARMCOM	AVSCOM	AVSCOM
5	AVSCOM	AVSCOM	AVSCOM	TACOM*	ECOM	ECOM
6	ECOM*	TROSCOM	ECOM	TROSCOM	TROSCOM	TROSCOM

* LOWER RANK THAN FY 74

COMPTROLLER EFFICIENCY TREND EVALUATION SYSTEM
COMPOSITE E&E RANKS, FY 1975
COMMODITY COMMAND SUMMARY LEVEL

(SCALES OF 25-50 FOR EFFECTIVENESS & EFFICIENCY).

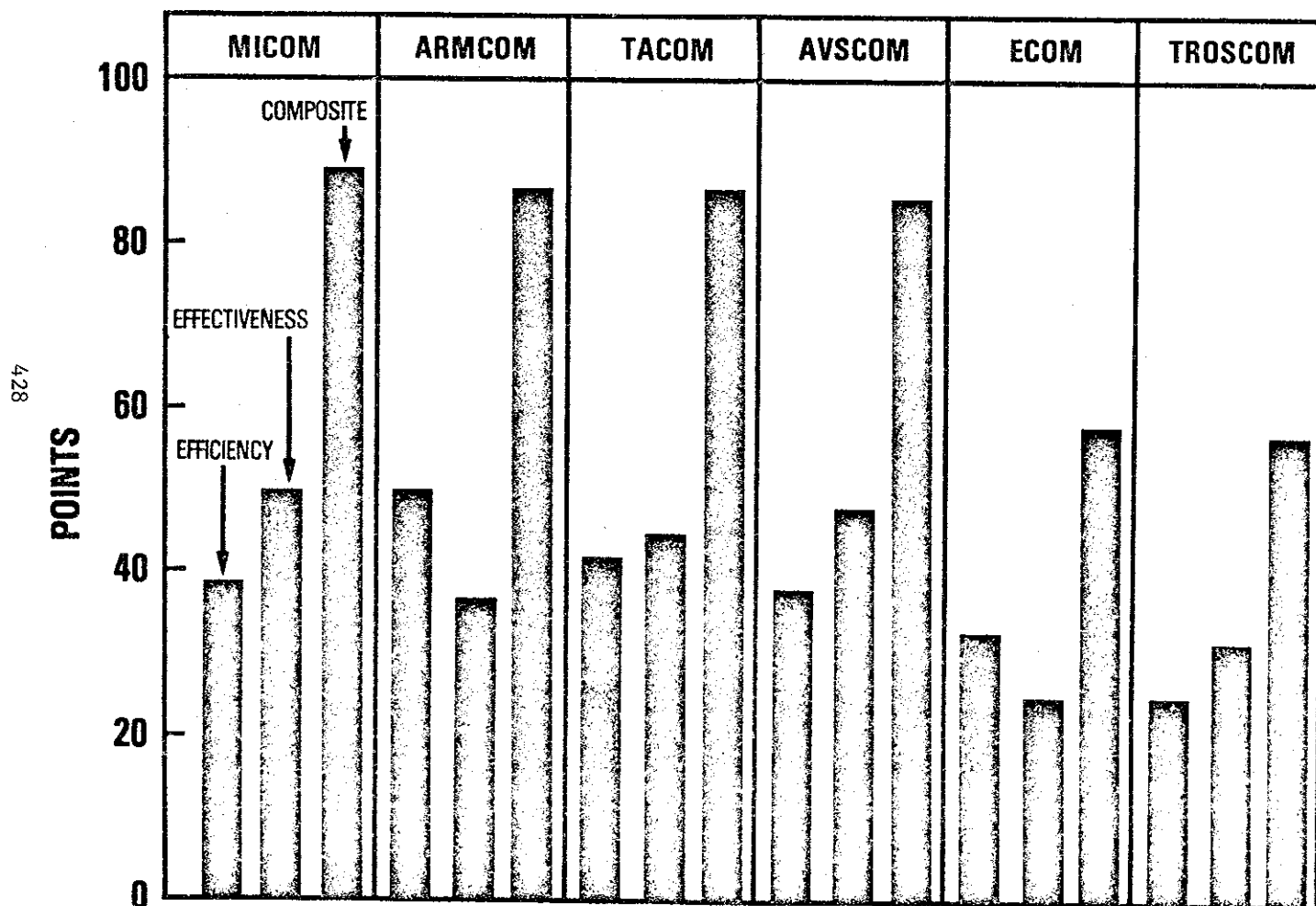


CHART 12

AMC OVERALL PERFORMANCE INDICATOR REVIEW **DEPOT PERFORMANCE SUMMARY**

MAJOR DEPOTS
FISCAL YEAR 1975

<u>RANK</u>	<u>SUPPLY</u>	<u>MAINT</u>	<u>PERS MGT</u>	<u>OVERALL</u>	<u>OVERALL FY 1974</u>
1	AN	SH	SH	AN	LB
2	LB	LB*	AN	SH	AN
3	CC	AN	RR*	LB*	TE
4	PU	TE	TE*	TE*	LE
5	TE	TO*	SA	CC	NC
6	TO	LE*	PU*	TO	TO
7	SH*	RR	LB	PU	SH
8	SA	CC	CC*	LE*	RR
9	LE*	PU	LE	RR*	PU
10	NC*	SA	NC*	SA	CC
11	RR*	NC*	TO*	NC*	SA

* LOWER RANK THAN IN FY 74

COMPTROLLER EFFICIENCY TREND EVALUATION SYSTEM

DEPOT EFFICIENCY SUMMARY

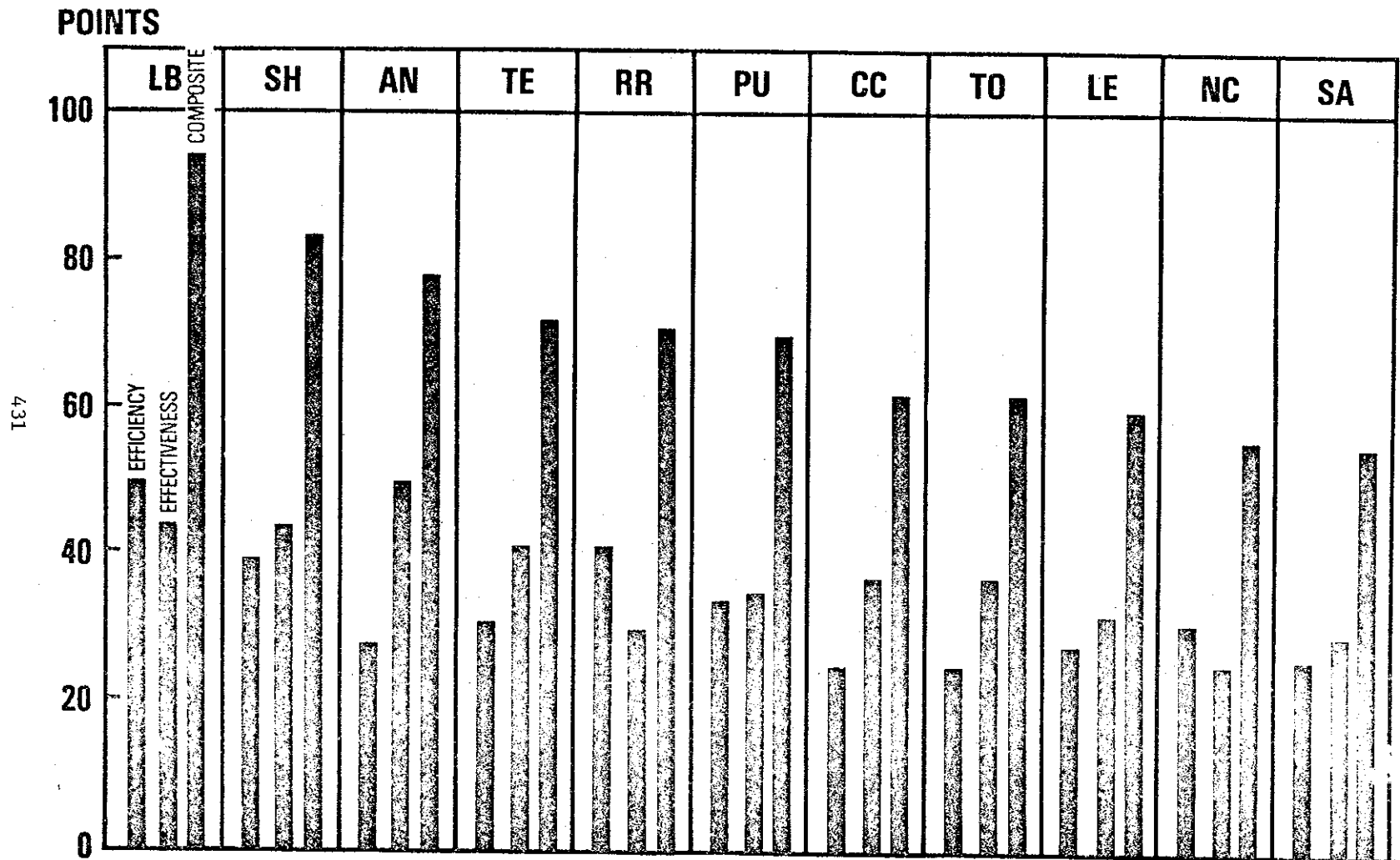
FISCAL YEAR 1975

<u>RANK</u>	<u>BASE OPs</u>	<u>SUPPLY</u>	<u>MAINT</u>	<u>OVERALL</u>	<u>FY 1974</u>
1	RR	CC	TO	LB	RR
2	LB	LB	LB	RR*	NC
3	AN	RR*	SA*	SH	LB
4	LE*	AN	SH	PU	SA
5	TE	NC*	PU	TE	LE
6	TO	PU	CC	NC*	SH
7	CC*	SH*	TE*	TIE {	AN
8	SH	LE*	LE		PU
9	SA*	TE	AN	SA*	CC
10	PU	SA*	RR*	CC*	TO
11	NC*	TO	NC	TO*	TE

* LOWER RANK THAN FY 1974

CHART 14

COMPTROLLER EFFICIENCY TREND EVALUATION SYSTEM
COMPOSITE E&E RANKS FY 1975 DEPOT SUMMARY LEVEL
 (SCALES OF 25-50 FOR EFFECTIVENESS & EFFICIENCY)



AMC OVERALL PERFORMANCE INDICATOR REVIEW
DEPOT PERFORMANCE SUMMARY (AMMO DEPOTS)

SELECTED AREAS/INDICATORS
FISCAL YEAR 1975

<u>AREA/INDICATOR</u>	<u>WEIGHT</u>	<u>SAVANNA</u>	<u>SENECA</u>	<u>SIERRA</u>
SUPPLY	(21)	(2395)	(2370)	(2443)
SHIPPING (IPG-3)	5	497	486	500
TRANSPORTATION	⑤	INSUFFICIENT VOLUME		
RECEIVING	12	1198	1171	1187
INVENTORY	4	700	713	756
PERSONNEL MANAGEMENT	(10)	(1277)	(1202)	(1074)
CIV PERS INDEX	9	1077	1002	874
EQUAL EMPL OPPTY	1	200	200	200
TOTAL	36	3672	3572	3517
RANK		1	2	3
RANK IN FY 74		3	1	2

COMPTROLLER EFFICIENCY TREND EVALUATION SYSTEM AMMUNITION DEPOT EFFICIENCY SUMMARY

FISCAL YEAR 1975

<u>RANK</u>	<u>BASE OPs</u>	<u>SUPPLY</u>	<u>OVERALL</u>	<u>FY 1974</u>
1	SE	SV	SE	SE
2	SV	SI	SI	SI
3	SI*	SE*	SV	SV

* LOWER RANK THAN FY 74

COMPTROLLER EFFICIENCY TREND EVALUATION SYSTEM
COMPOSITE OF E&E RANKS, FY 1975
AMMUNITION DEPOT SUMMARY LEVEL
 SCALES OF 25 TO 50 FOR EFFECTIVENESS & EFFICIENCY

434

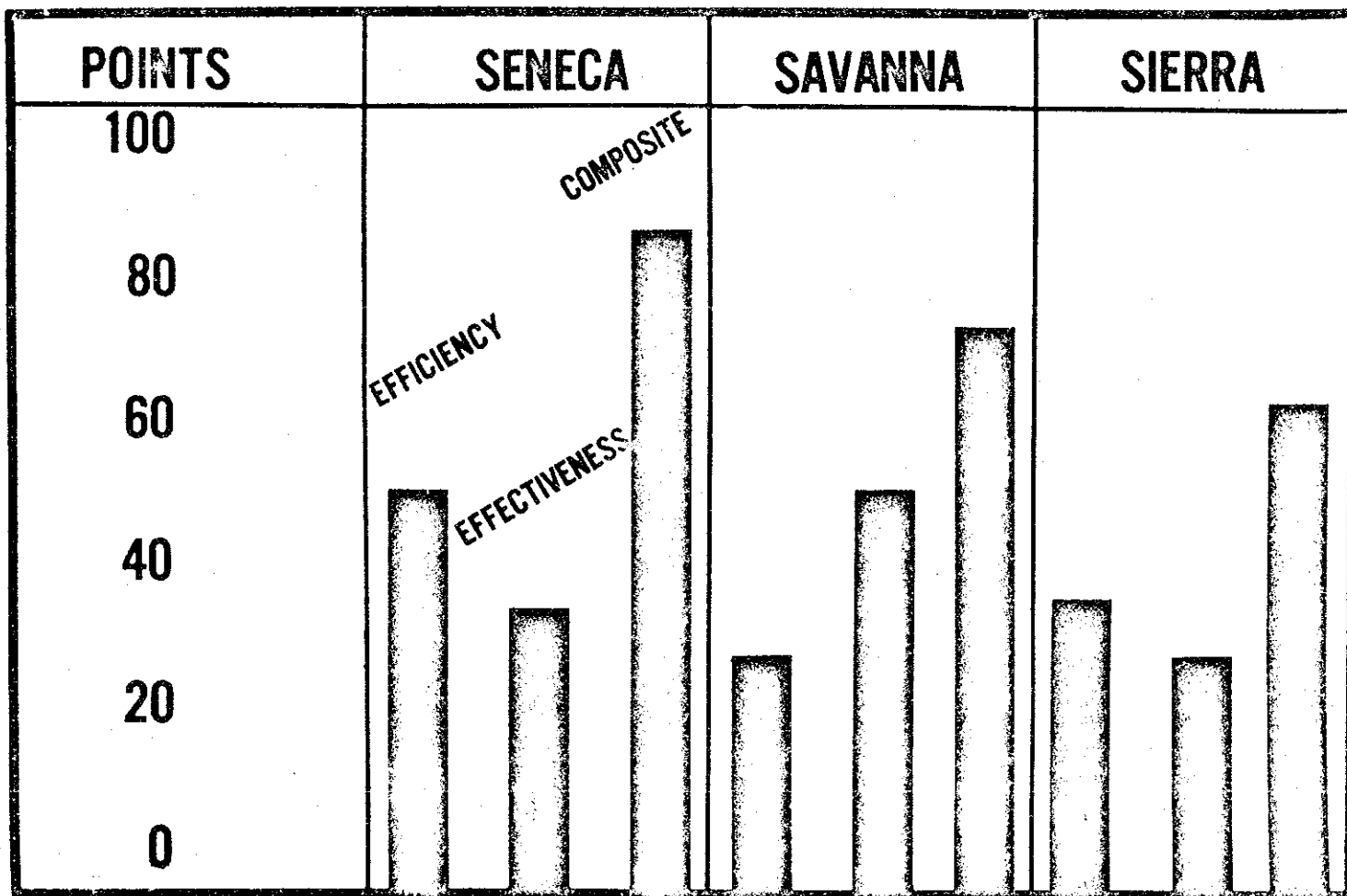


CHART 18

needed some way of measuring R&D more meaningfully and some means of covering total activities of such commands as ARMCOM and AVSCOM which still have such widely dispersed activities that in the FY 1975 appraisal, only Headquarters of these commands was covered.²⁶

Materiel Acquisition Trends

1964-1975

(U) On 5 September 1975, the Comptroller, AMC briefed the AMC Deputy Commanding General, LTG W. W. Vaughan regarding progress that had been made during the period 1964-1975 toward improvement of AMC materiel acquisition. The measurement criteria employed by the Comptroller, MG Leslie R. Sears, Jr. in his evaluation involved accomplishment of materiel requirements including QMRs (Qualitative Materiel Requirements), SDRs (Small Development Requirements), and ROCs (Required Operational Capabilities). These were the items assigned to AMC for accomplishment, and since comparable records were not available in AMC, General Sears used TRADOC's record of approval, assignment, termination, and satisfaction as his data source. Throughout the period measured, AMC had three primary objectives in materiel acquisition: to increase output, to reduce time to completion, and to improve currency of outstanding requirements.²⁷

(U) Using FY 1964 as the base or beginning year, the AMC Comptroller identified 376 requirements on-hand or in-process at the start of the year. Admittedly, probably not every requirement was accounted for; however, General Sears believed most requirements were uncovered. During FY 1964, 36 new requirements were approved by DA and added for a total of 412 approved requirements. Of these, 11 were combined with other requirements during the year, leaving a blend of 401 of which 13 were met during FY 1964 and 15 were deleted during the year for such reasons as: no longer valid, requirement withdrawn, project terminated, or infeasible. At year's end, 373 requirements remained in process. This end of the year figure was carried forward as the starting figure for the following fiscal year with the whole sequence being repeated for each year through FY 1975.²⁸

(U) The year-by-year charting and analysis of requirements met by fiscal year since 1964 indicated an upward trend except for the

²⁶CAMERA FEEDBACK (No. 5-76) "AMC Efficiency Trend and Effectiveness Evaluation, Fiscal Year 1975," Review and Analysis Division, Comptroller, HQ, USAMC, pp. i-ii.

²⁷CAMERA FEEDBACK, 2-76, "Review of Acquisition of Materiel, Review and Analysis Branch, Comptroller, HQ, AMC, 5 Sep 76, pp. i, 1.

²⁸Ibid.; p. 2, Chart 3.

years beginning with FY 1972, when a downward trend began with the number of requirements being met dropped each year through FY 1975. This reversed trend may be accounted for, to a degree, since the requirements in-process had dropped from 428 at the end of FY 1969 to 327 at the end of FY 1975. The possibility for increasing requirements met had fallen some 25 percent. Though the rate of requirements met had fallen during the period FY 1972 - FY 1975, the requirement met during the six-year period since the end of FY 1969 totaled 151 compared to the previous six-year period total since FY 1964 of 86 requirements met. FY 1969 was when the Deputy Secretary of Defense, Hon. David Packard, issued his policy which marked the beginning of the intensified management effort to improve the materiel acquisition process. Viewing the six-year period as a whole since Secretary Packard's policy issuance there had been a substantial increase in total output of requirements.²⁹

(U) In comparing the two six-year periods, the rate of requirement completions was 7.4 percent from 1969 on compared to 3.5% in the first six-year period. In the first period, of the 86 requirements met, 78% were over six years old. This figure dropped to 67% in the second six-year period since 1969. In 1969, there were 205 requirements over six years old, and in 1975 this figure had fallen to 68 meaning that during this six year period the older requirements were being met or weeded out.³⁰

(U) Of the 86 requirements met in the FY 1964-1969 time frame, 67 or 78% were met in over six years. In the period FY 1970-FY 1975, 101 requirements were met in over six years, but the percentage dropped to 67%. This was an improvement but two-thirds of requirements were taking over six years to completion. The conclusions presented to General Vaughan were that over the past few years, output of requirements had increased, time to completion had been reduced, and the outstanding balance of requirements was more current than in past periods. General Vaughan directed the RD&E Directorate to establish management objectives to reduce time completion and deletion of requirements. He also asked the Comptroller to determine why large numbers of requirements are more than six years old, especially in the areas of electronics and troop support.³¹

²⁹Ibid.; p. 3, Chart 6.

³⁰Ibid.; p. 5, Chart 9.

³¹Ibid.; pp. 1, 11-12; Charts 20-21.

Procurement Statistics

(U) Figures 24-30 indicate procurement statistics pertaining to the U.S. Army Materiel Command for FY 1975. The statistics were compiled by the U.S. Army Research, Development and Acquisition Information Systems Agency, Procurement Statistics Office.³²

Production Facilities Review

(U) In March 1976, the AMC Comptroller reported his findings of a year-long survey of AMC production facilities management which had been requested by the AMC commander. The review and evaluation which was based upon visits to facilities and data submitted pertained only to the management and operations of production plants under AMC control. A review and evaluation of the management and operations of the AMC arsenals was promised for presentation at a later time. The plants reviewed are shown on Figures 31-33.³³ Except for the aircraft plant all of the plants shown in the figures were owned by the government. In conducting the review, the Comptroller was not able to secure complete data from all of the plants. However, he believed that sufficient data was collected to perform an effective evaluation. The period covered was FY 1970-FY 1975 for most areas and FY 1970 - FY 1991 for plant modernization. The estimated dollar value of materiel delivered, operations cost and modernization expenses are indicated on Figure 34.

(U) Figure 35 indicates the dollar value of AMC production type facilities accounting for projected modernization improvements through FY 1991. On the left side of the figure, the data was stratified to indicate acquisition cost and contemporary replacement cost. The replacement value of all the facilities was computed to be \$13.5 billion. Modernization and MCA (Military Construction Appropriation) data on the right side of Figure 9 was stratified into actual funds invested from FY 1970 through FY 1976 and planned expenditures through FY 1991. Of the \$3.9 billion in the total modernization plan, \$1.168 billion were made available during the FY 1970-FY 1976 period.³⁴

³²Procurement Statistics - FY 1975, OCRDA Information Statistics Office, HQDA (DAMA-ISP), pp. 3, 5, 8-11. (In AMC Historical Office Sources Collection).

³³CAMERA FEEDBACK (9-76), "Production Facilities," Review and Analysis Division, Comptroller, HQ, USAMC, 10 March 1976, pp. i, 1, & Charts 1-3.

³⁴Ibid., Chart 13.

PRICE COMPETITION, COST-PLUS-FIXED-FEE CONTRACTS BY COMMAND

1 JULY 1973 - 30 JUNE 1975

	(\$1 AND OVER - IN MILLIONS)					(\$10,000 AND OVER - IN MILLIONS)				
	TOTAL /1 \$ VALUE	PRICE COMPETITION				TOTAL /1 \$ VALUE	COST-PLUS-FIXED-FEE			
		\$ VALUE	PERCENT THIS PERIOD				\$ VALUE	PERCENT THIS PERIOD		
			FY 1975	FY 1974	FY 1973				FY 1975	FY 1974
ARMY MATERIEL COMMAND	4,843.0	1,532.9	31.7	28.1	31.8	4,563.8	468.4	10.3	9.3	9.7
ARMAMENT COMMAND	1,330.3	474.7	35.7	32.3	32.8	1,289.1	171.4	13.3	8.0	7.0
ELECTRONICS COMMAND	756.6	164.5	21.7	25.5	32.8	704.2	96.3	13.7	16.3	15.3
TEST & EVALUATION COMMAND	78.8	21.9	27.8	27.2	25.6	50.9	9.4	18.5	12.6	25.6
TANK AUTOMOTIVE COMMAND	906.7	388.7	42.9	47.0	55.1	883.2	36.0	4.1	5.4	7.2
MISSILE COMMAND	904.0	274.1	30.3	15.1	12.9	865.0	90.6	10.5	12.7	11.7
AVIATION SYSTEMS COMMAND	510.7	62.9	12.3	8.5	14.5	482.2	25.4	5.3	3.2	5.8
TROOP SUPPORT COMMAND	180.8	81.8	45.3	45.6	50.5	173.8	11.5	6.6	9.6	12.4
ALL OTHER AMC /2	175.1	64.3	36.7	45.3	35.7	115.4	27.8	24.1	18.7	30.1

Figure 24

SUMMARY OF PROCUREMENT ACTIONS

DOLLAR VALUE IN THOUSANDS

PERIOD FROM 1 JULY 1974 THRU JUNE

1975

US ARMY MATERIEL COMMAND

	NUMBER OF ACTIONS			NET DOLLAR VALUE		
	TOTAL	LESS THAN \$10,000	\$10,000 OR MORE	TOTAL	LESS THAN \$10,000	\$10,000 OR MORE
1. A. SMALL BUS.	380,677	372,860	7,817	857,633	160,661	696,972
B. ADVERTISED	17,965	16,528	1,437	111,763	5,641	106,122
C. NEGOTIATED	362,712	356,332	6,380	745,870	155,020	590,850
2. A. LARGE BUS.	147,964	135,395	12,569	3,887,491	114,304	3,773,187
B. ADVERTISED	3,775	2,382	1,393	383,451	2,167	381,284
C. NEGOTIATED	144,209	133,013	11,196	3,504,040	112,137	3,391,903
3. A. WITH BUS.	528,661	508,255	20,406	4,745,124	274,965	4,470,159
B. ADVERTISED	21,740	18,910	2,830	495,214	7,808	487,406
C. NEGOTIATED	506,921	489,345	17,576	4,249,910	267,157	3,982,753
4. A. NON-PROFIT	4,038	3,514	524	37,264	2,198	35,066
B. ADVERTISED	8	4	4	288	5	283
C. NEGOTIATED	4,030	3,510	520	36,976	2,193	34,783
5. A. OUTSIDE U.S.	3,343	2,972	371	60,607	2,037	58,570
B. ADVERTISED	45	1	44	15,473	2	15,471
C. NEGOTIATED	3,298	2,971	327	45,134	2,035	43,099
A. TOTAL	576,069	551,555	24,514	6,266,199	324,666	5,941,533
B. ADVERTISED	21,793	18,915	2,878	510,975	7,815	503,160
C. NEGOTIATED	514,249	495,826	18,423	4,332,020	271,385	4,060,635
D. IG + FMS	40,027	36,814	3,213	1,423,204	45,466	1,377,738

Figure 25

TOTAL ACTIONS

U.S. ARMY MATERIEL COMMAND. PRIME CONTRACTS

PERIOD FROM 1 JULY 1974 THRU JUNE

1975

	ARMAMENT COMMAND	ELECTRONICS COMMAND	TEST AND EVALUATION COMMAND	TANK AUTOMOTIVE COMMAND
1. A. SMALL BUS.	62,149	33,257	58,413	14,715
B. ADVERTISED	526	829	7,949	636
C. NEGOTIATED	61,623	32,428	50,464	14,079
2. A. LARGE BUS.	17,551	24,822	23,037	5,185
B. ADVERTISED	492	391	101	555
C. NEGOTIATED	17,059	24,431	22,936	4,630
3. A. WITH BUS.	79,700	58,079	81,450	19,900
B. X SMALL BUS.	78.0	57.3	71.7	73.9
4. A. NON-PROF -	705	307	632	91
B. ADVERTISED		1		
C. NEGOTIATED	705	306	632	91
5. A. OUTSIDE U.S.	77	1,242	9	64
B. ADVERTISED	13	5		23
C. NEGOTIATED	64	1,237	9	41
6. IG + FMS	4,615	5,241	6,802	1,841
7. GRAND TOTAL	85,097	64,869	88,893	21,896

077

Figure 26

U.S. ARMY MATERIEL COMMAND, PRIME CONTRACTS

DOLLAR VALUE IN THOUSANDS

PERIOD FROM 1 JULY 1974 THRU JUNE

1975

	ARMAMENT COMMAND	ELECTRONICS COMMAND	TEST AND EVALUATION COMMAND	TANK - AUTOMOTIVE COMMAND
1. A. SMALL BUS.	269,002	141,655	26,632	114,781
B. ADVERTISED	28,768	2,819	1,540	31,069
C. NEGOTIATED	240,234	138,836	25,092	83,712
2. A. LARGE BUS.	1,045,342	597,883	46,670	765,026
B. ADVERTISED	106,491	13,114	3,680	207,624
C. NEGOTIATED	938,851	584,769	42,990	557,402
3. A. WITH BUS	1,314,344	739,538	73,302	879,807
B. % SMALL BUS.	20.5	19.2	36.3	13.0
4. A. NON-PROFIT	5,594	7,310	5,443	779
B. ADVERTISED		5		
C. NEGOTIATED	5,594	7,305	5,443	779
5. A. OUTSIDE U.S.	10,370	9,697	69	26,105
B. ADVERTISED	1,221	110		13,764
C. NEGOTIATED	9,149	9,587	69	12,341
6. IQ + FMS	327,404	87,345	15,598	262,417
7. GRAND TOTAL	1,657,712	343,890	94,412	1,169,108

441

Figure 27

U.S. ARMY MATERIEL COMMAND. PRIME CONTRACTS

TOTAL ACTIONS

PERIOD FROM 1 JULY 1974 THRU JUNE

1975

	OTHER AMC ACTIVITIES	MISSILE COMMAND	AVIATION SYSTEMS COMMAND	TROOP SUPPORT COMMAND	TOTAL
1. A. SMALL BUS.	134,206	31,875	35,404	10,658	380,677
B. ADVERTISED	2,110	2,566	3,285	64	17,965
C. NEGOTIATED	132,096	29,309	32,119	10,594	362,712
2. A. LARGE BUS.	50,078	16,409	7,218	3,684	147,984
B. ADVERTISED	1,810	149	226	51	3,775
C. NEGOTIATED	48,268	16,260	6,992	3,633	144,209
3. A. WITH BUS	184,284	48,284	42,622	14,342	528,661
B. % SMALL BUS.	72.8	66.0	83.1	74.3	72.0
4. A. NON-PROFIT	616	298	961	428	4,038
B. ADVERTISED	7				8
C. NEGOTIATED	609	298	961	428	4,030
5. A. OUTSIDE U.S.	1,773	18	149	11	3,343
B. ADVERTISED	1		3		45
C. NEGOTIATED	1,772	18	146	11	3,298
6. IG + FMS	15,784	3,337	1,215	1,192	40,027
7. GRAND TOTAL	202,457	51,937	44,947	15,973	576,069

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Figure 28

DD-1+L(M)510

PSO-510-1-4

U.S. ARMY MATERIEL COMMAND. PRIME CONTRACTS

DOLLAR VALUE IN THOUSANDS

PERIOD FROM 1 JULY 1974 THRU JUNE

1975

	OTHER AMC ACTIVITIES	MISSILE COMMAND	AVIATION SYSTEMS COMMAND	TROOP SUPPORT COMMAND	TOTAL
1. A. SMALL BUS.	73,712	92,619	53,968	85,264	857,633
B. ADVERTISED	6,684	3,688	15,520	21,675	111,763
C. NEGOTIATED	67,028	88,931	38,448	63,589	745,870
2. A. LARGE BUS.	92,656	802,517	453,320	84,077	3,887,491
B. ADVERTISED	4,731	25,839	11,515	10,457	383,451
C. NEGOTIATED	87,925	776,678	441,805	73,620	3,504,040
3. A WITH BUS.	166,368	895,136	507,288	169,341	4,745,124
B. % SMALL BUS.	44.3	10.3	10.6	50.4	18.1
4. A. NON-PROFIT	5,221	7,943	943	4,031	37,264
B. ADVERTISED	283				288
C. NEGOTIATED	4,938	7,943	943	4,031	36,976
5. A. OUTSIDE U.S.	3,623	896	2,455	7,392	60,607
B. ADVERTISED	12		366		15,473
C. NEGOTIATED	3,611	896	2,089	7,392	45,134
6. IG + FMS	131,459	344,419	250,709	3,853	1,423,204
7. GRAND TOTAL	306,671	1,248,394	761,395	184,617	6,266,199

Figure 29

U.S. ARMY MATERIEL COMMAND PRODUCTION FACILITIES

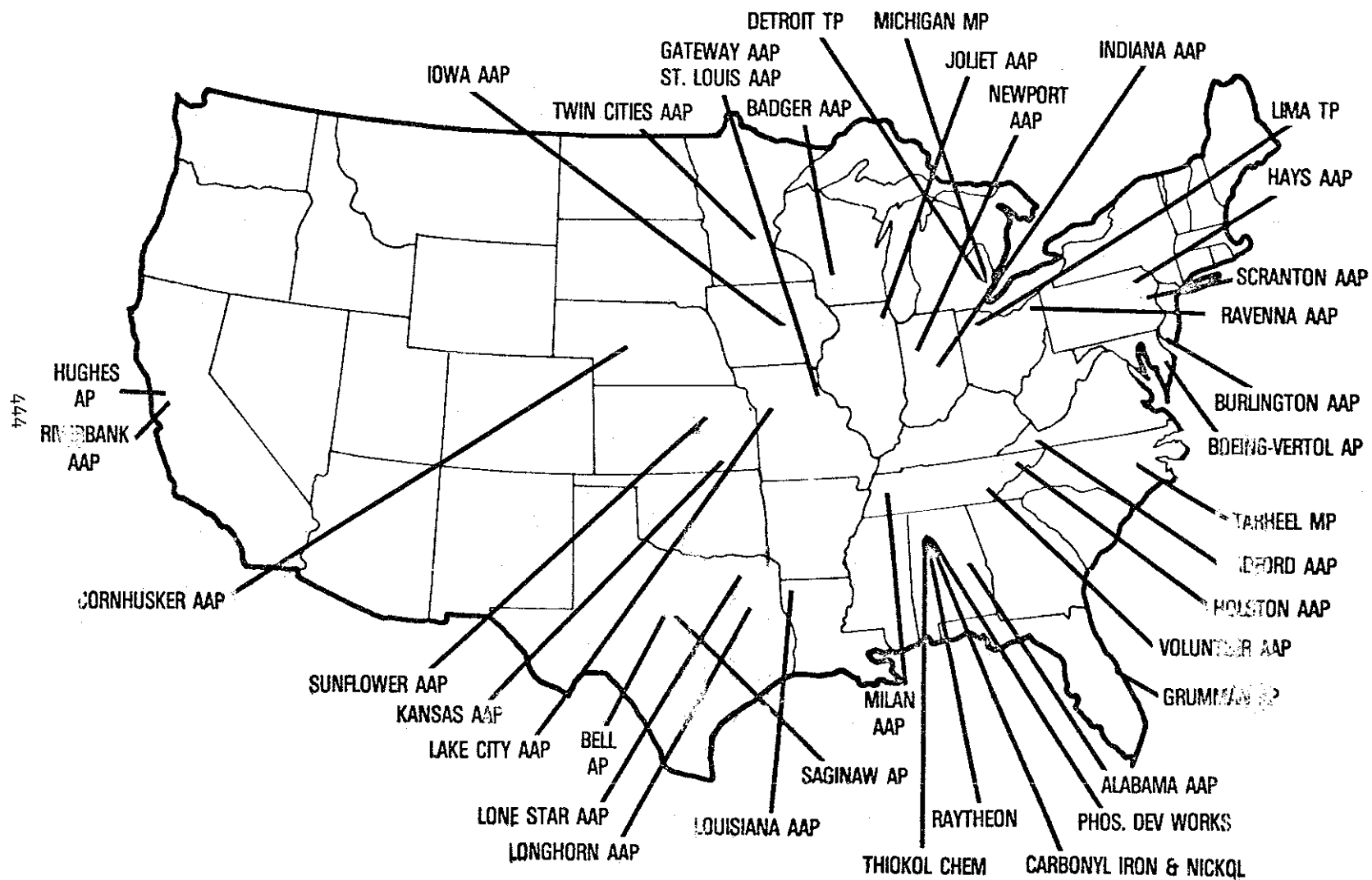


Figure 30

AMC PRODUCTION TYPE FACILITIES

445

AMMUNITION PLANTS

A. PROPELLANTS & EXPLOSIVES

- 1. BADGER
- * 2. HOLSTON
- * 3. RADFORD
- 4. VOLUNTEER
- 5. SUNFLOWER (1)
- 6. ALABAMA (2)

B. SMALL ARMS

- * 7. LAKE CITY

C. METAL PARTS

- * 8. RIVERBANK
- * 9. SCRANTON
- 10. GATEWAY (1)
- 11. HAYS (1)
- 12. ST LOUIS (1)
- 13. BURLINGTON (2)

D. LOAD, ASSEMBLE & PACK

- 14. IOWA
- 15. KANSAS
- 16. LONESTAR
- 17. LONGHORN
- 18. MILAN
- 19. CORNHUSKER (1)
- * 20. RAVENNA (1)

E. PROPELLANTS & EXPLOSIVES/LOAD, ASSEMBLE & PACK

- * 21. JOLIET
- * 22. INDIANA
- 23. NEWPORT (1)

F. SMALL ARMS/METAL PARTS

- 24. TWIN CITIES

G. METAL PARTS/LOAD, ASSEMBLE & PACK

- 25. LOUISIANA

AIRCRAFT PLANTS

- * 1. BELL
- * 2. GRUMMAN
- * 3. HUGHES
- * 4. BOEING-VERTOL
- * 5. SAGINAW

TANK PLANTS

- * 1. DETROIT
- 2. LIMA (1)

MISSILE PLANTS

- * 1. MICHIGAN
- * 2. TARHEEL
- 3. RAYTHEON
- 4. THIOKOL CHEM (1)

OTHER

- 1. CARBONYL IRON & NICKOL (ECOM)
- 2. PHOSPHATE DEV WORKS (ARMCOM) (1)

- (1) INACTIVE
- (2) SURPLUS
- * FACILITIES VISITED

Figure 31

U.S. ARMY MATERIEL COMMAND PRODUCTION PLANTS ESTIMATED DOLLAR VALUE OF MATERIEL DELIVERED, OPERATING COST AND MODERNIZATION EXPENSES FY-70/75

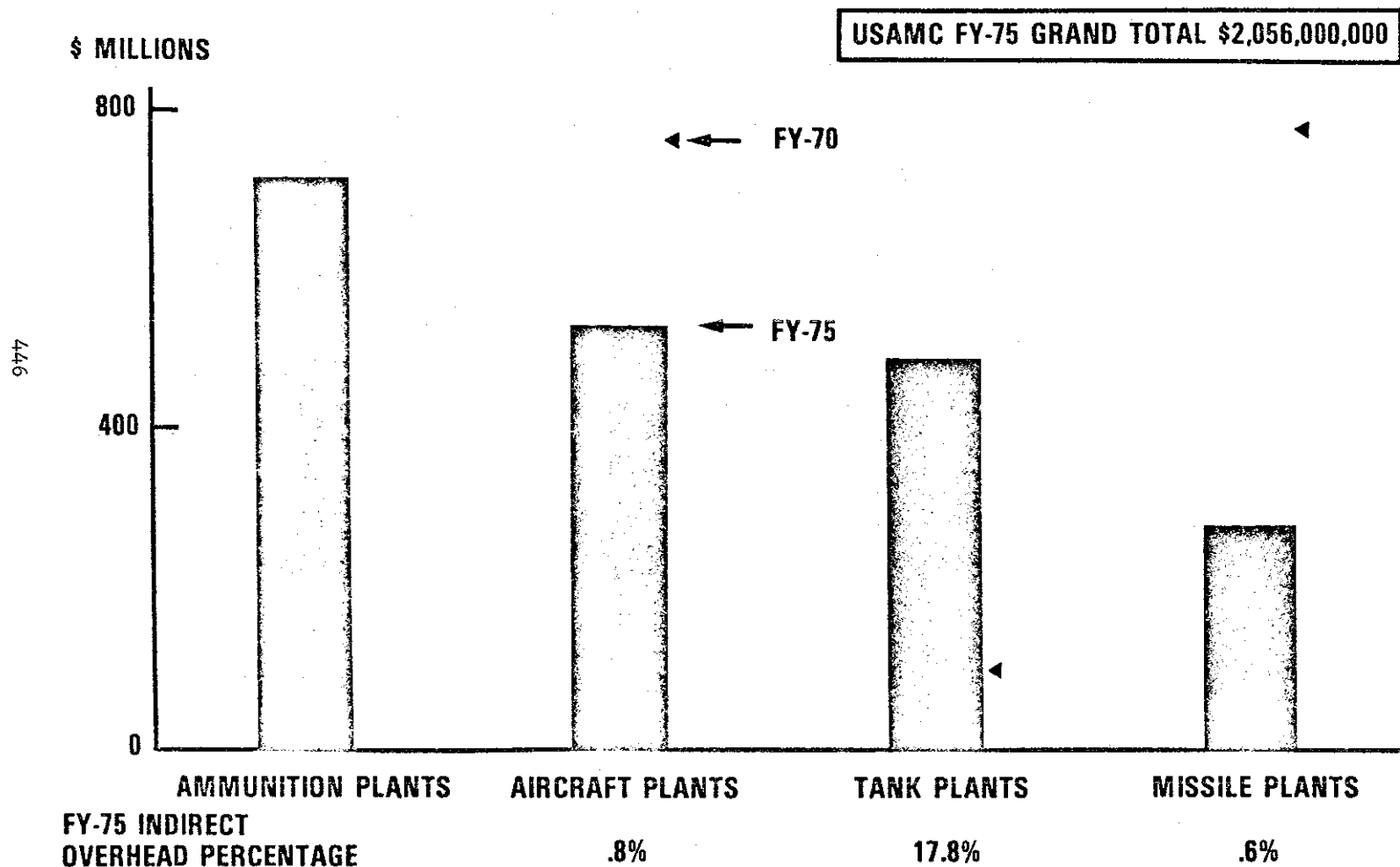


Figure 32

DOLLAR VALUE OF AMC PRODUCTION TYPE FACILITIES

FY-70/91

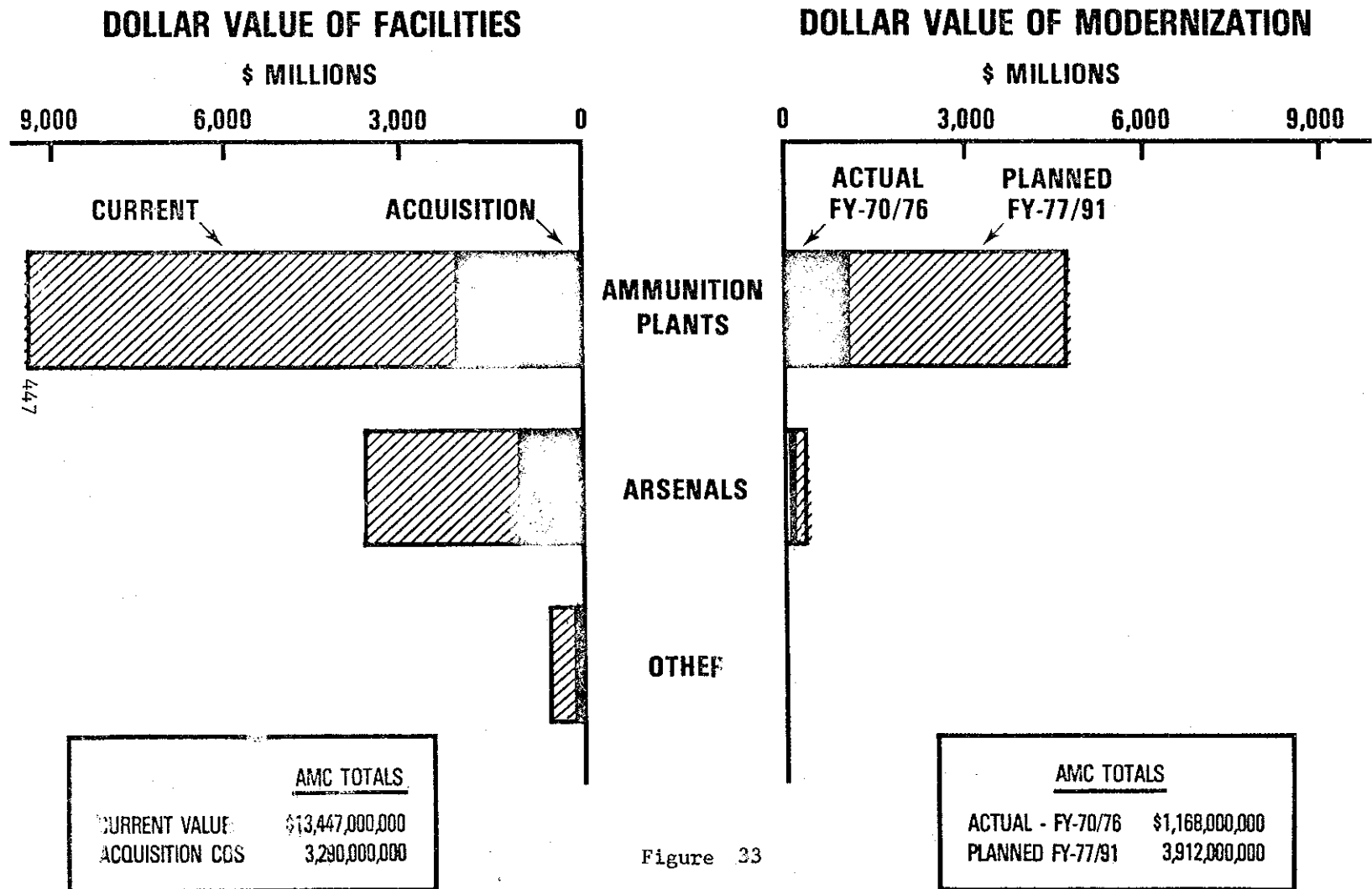


Figure 33

Ammunition Plants

(U) Figure 34 indicates the actual (as of March 1976) and the projected ammunition plant modernization program. One ammunition plant has been added, the new one at Mississippi and five are not planned for modernization leaving a balance of twenty-one plants in the modernization program. The plants not being modernized are two surplused plants (Alabama and Burlington) and three inactive plants (Gateway, Hays, and St. Louis). Funded projects ranged from a low of two percent of \$619 million at Newport to a high of 71% of \$88 million at Volunteer. Newport had the most costly program at \$619 million while Cornhusker had the lowest program, \$2 million.³⁵

(U) Figure 35 relates the modernization effort to the status of readiness at each of the plants in relation to their mobilization missions. Fourteen plants were in Category 1 or ready to meet mobilization missions. Eight were listed in Category 2, as requiring considerable replacement and repair to meet mobilization missions. The two surplus plants and the new plant in Mississippi are not shown. The Comptroller indicated that there was a need for a detailed review of the modernization plans and mobilization mission of the nine plants in Categories 2 and 3. Newport, the lone plant in Category 3 required major repairs and replacement plus new acquisition.³⁶

(U) The overall management and operational assessment of the ammunition plants as seen by the Comptroller review concluded in the financial area that there had been no independent monitorship of the implementation of the uniform cost accounting and reporting system and that there had been no monitorship of indirect overhead expenses at neither individual plant level nor of total plants at ARMCOM level. In the personnel area, the reviewers concluded that there had been no staffing guides for corresponding staffs at the plants and that there had been no controls or guides on supervisory ratios for Federal and contract personnel at the plants. Regarding mobilization and readiness, it was found that not all mobilization missions assigned to the ammunition plants were achievable because of the need for specific plans for procurement of mobilization items assigned to plants that could not produce them. In the contracting area it was determined that multiple contracts at seven of the plants contributed to high administrative costs and that efficiency and effectiveness at the ammunition plants could not be achieved until standard costing was achieved. The reviewers also found that there were no standards for non production type workloads at the plants.³⁷

³⁵Ibid.; Figure 34.

³⁶Ibid.; Figure 35.

³⁷Ibid.; Figures 36-37.

MODERNIZATION OF AMMUNITION PLANTS

FY-70/91

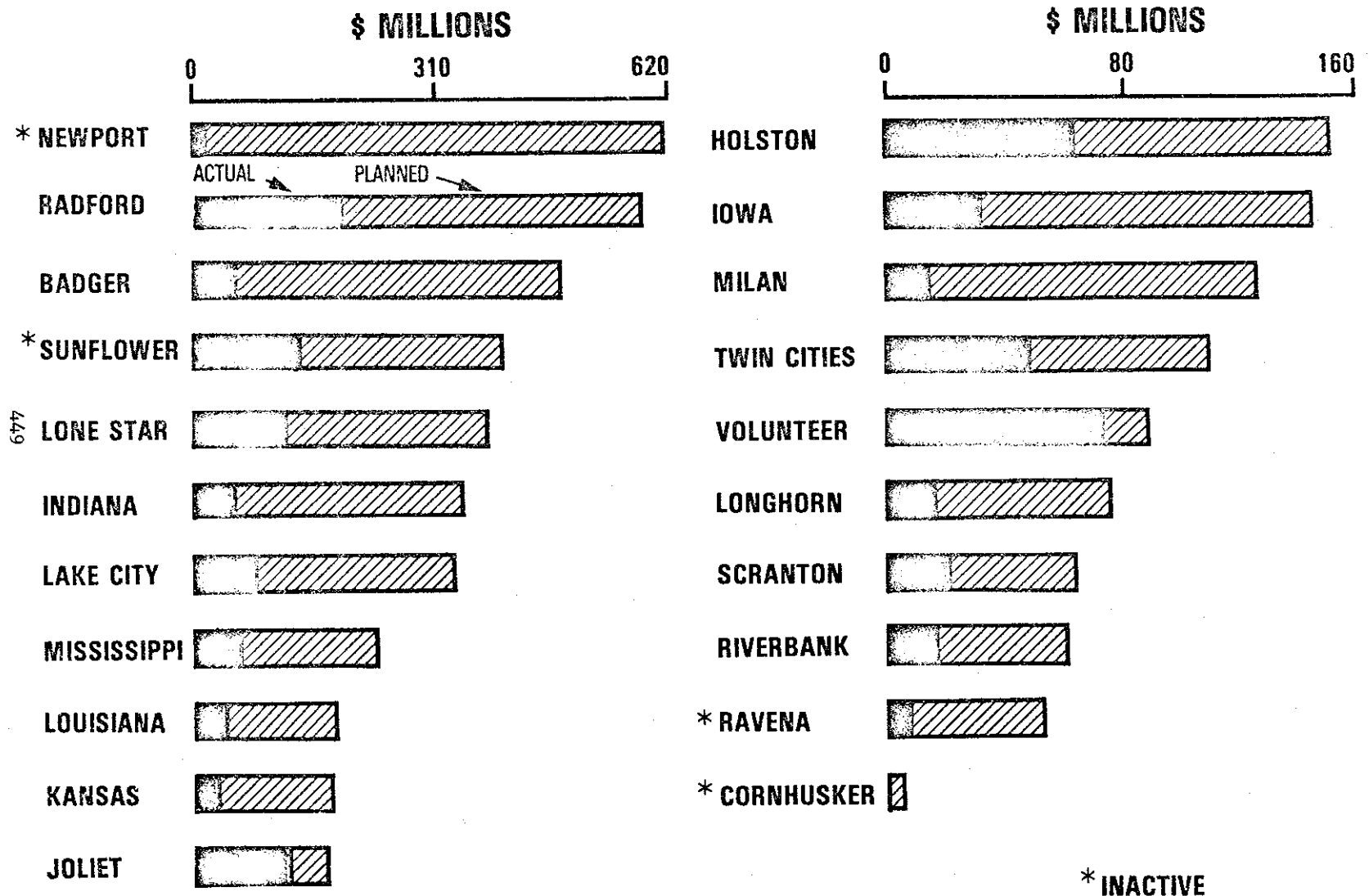


Figure 34

AMC AMMUNITION PLANTS READINESS AND MODERNIZATION STATUS

<u>CATEGORY 1</u>	<u>% MODERNIZATION COMPLETED</u>	<u>CATEGORY 2</u>	<u>% MODERNIZATION COMPLETED</u>	<u>CATEGORY 3</u>	<u>% MODERNIZATION COMPLETED</u>
1. BADGER	10	1. <u>INDIANA</u>	12	1. NEWPORT	2
2. HOLSTON	41	2. <u>JOLIET</u>	72		
3. IOWA	22	3. KANSAS	11		
4. LONE STAR	30	4. <u>LAKE CITY</u>	21		
5. LONGHORN	20	5. <u>SCRANTON</u>	33		
6. LOUISIANA	21	6. VOLUNTEER	81		
7. MILAN	11	7. CORNHUSKER	5		
8. RADFORD	33	8. <u>SUNFLOWER</u>			
9. RIVERBANK	27				
10. TWIN CITIES	44				
11. GATEWAY					
12. HAYS					
13. RAVENNA	12				
14. ST LOUIS					

CATEGORIES:

1. READY FOR USE
2. CONSIDERABLE REPAIR AND REPLACEMENT IS REQUIRED
3. MAJOR REPAIRS, REPLACEMENT AND ACQUISITION REQUIRED

TWO SURPLUS PLANTS NOT LISTED

Figure 35

Aircraft Plants

(U) An overview of the volume of AMC business conducted at the four contractor-owned aircraft plants is indicated on Figure 13. The dollar value of materiel delivered to government agencies in FY 1975 decreased to \$539,049,000 from \$775, 807,000 in FY 1970. This reduction in dollar volume of business was experienced at all four of the aircraft plants: Bell, Boeing-Vertol, Hughes, and Grumman. Bell Aircraft continued to handle the major portion of government helicopter business with Grumman being the Army's principal fixed wing aircraft production plant. The percentage reductions at the four plants over the five year period equalled 13 percent at Bell, 46 percent at Boeing-Vertol, 55 percent at Hughes, and 56 percent at Grumman.³⁸

(U) Problems that increased contract costs and delayed deliveries of end items were discovered at all four of the aircraft plants. Faulty government furnished equipment (GFE) as well as shortages and late receipts were major problems affecting Bell, Boeing-Vertol, and Grumman. The survey found that at Bell, helicopters were built but could not be delivered to customers because of missing components. At Boeing-Vertol, engines that malfunctioned were the key problem and at Grumman unserviceable and late repair parts delayed production and increased costs. At the Hughes plant, repair parts and components that did not indicate which of over 400 contracts they applied to were a problem. Unrealistic delivery schedules which were causing all contracts for parts and spares for receipt at Bell, Grumman, and Hughes to be renegotiated were also causing additional expenses at the three plants.³⁹

(U) Following the review and analysis of the aircraft plants, the Comptroller concluded that: personnel strengths of corresponding staffs at plants were closely related to contractor personnel strengths; the ratios of contracts administered per person has increased at all plants during the FY 1970/1975 period; there was a need for better relationship of supervisory ratios of Federal personnel at the plants; there was no coordination between contracting officers and contractors on initial delivery schedules for parts and spares; GFE was being shipped short/over/unserviceable by AMC depots to aircraft plants; and GFE shipped by AMC, DSA, and GSA depots to aircraft plants are not identified to corresponding contracts.

³⁸ Ibid.; pp. 14-15, Chart 28.

³⁹ Ibid.; pp. 14-18, Charts 33-37.

AIRCRAFT PLANTS

DOLLAR VALUE OF MATERIEL DELIVERIES AND GOVERNMENT OPERATING COSTS

FY 70/75

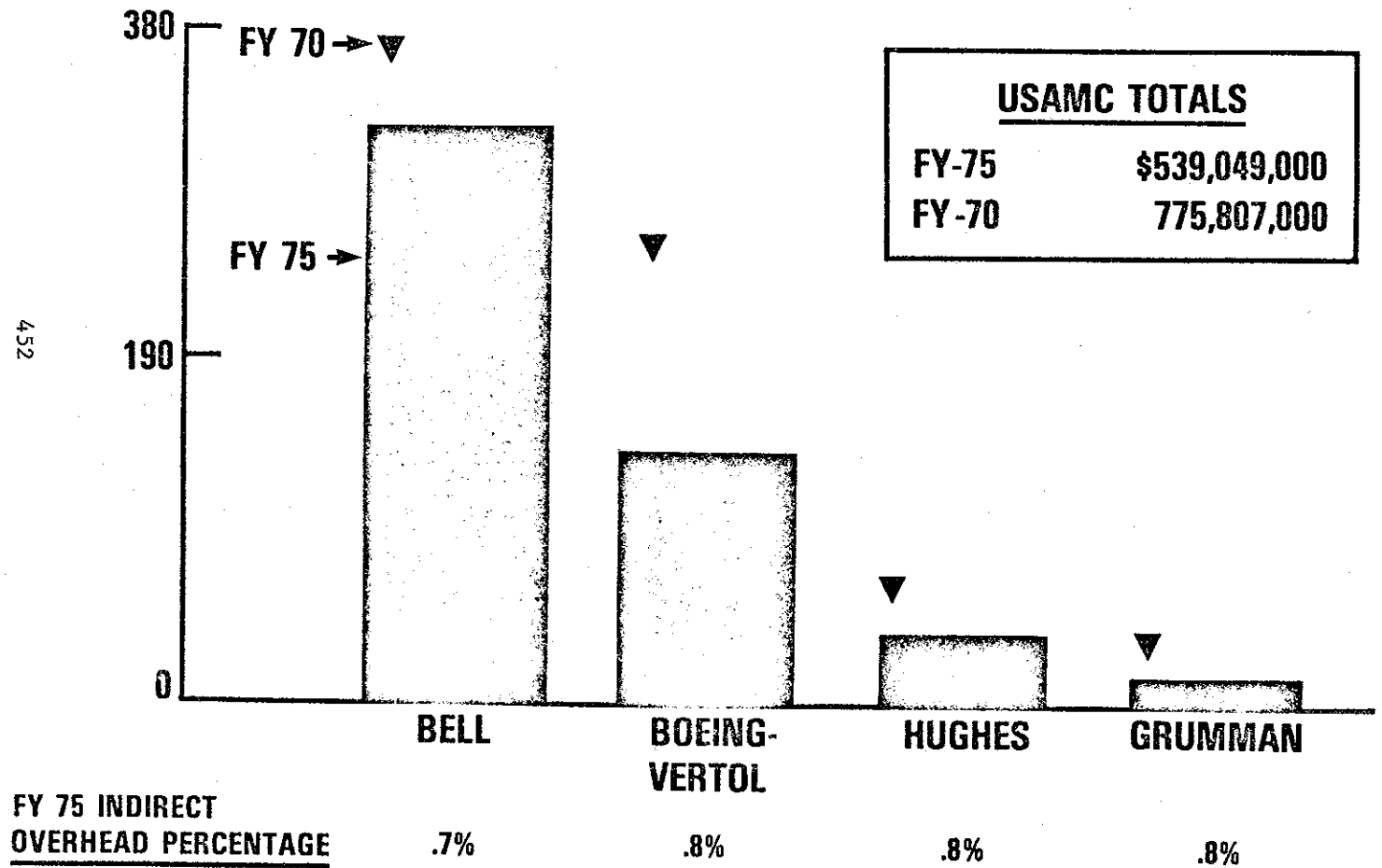


Figure 36

Missile Plants

(U) Figure 14 indicates the dollar value of materiel and services delivered and operating costs of the four MICOM missile plants. Tarheel, Michigan, Thiokol, and Raytheon. There are large differences in each plant's scale. Tarheel is leased to the Western Electric Company and all of the Army's contract administration is done by the Defense Contract Administration Agency (DCAA) staff assigned to the plant. Because of the lease, there is no operating cost. Tarheel had the largest volume of business, \$760 million in FY 1975, most for the U.S. Navy. The Michigan Plant is a GOCO facility but is operated by a DCAA staff. Michigan is the second largest missile plant and had \$25 million worth of business in FY 1975. The Army's share of operating expense for FY 1975 was approximately \$4.4 million. Thiokol and Raytheon are two small plants located on the Huntsville arsenal grounds. Their management is an integral part of MICOM with no separate contracting officers assigned. The volume of business at Thiokol and Raytheon was quite small with only \$324,000 at Thiokol and \$225,000 at Raytheon during FY 1975.

(U) The only conclusion concerning the missile plants made by the Comptroller analysis was that MICOM has played a very limited role in the management of the Tarheel and Michigan plants. The opposite was found for Thiokol and Raytheon.⁴⁰

Detroit Arsenal Tank Plant

(U) When the Comptroller survey team began its evaluation of the tank plants in January 1975, TACOM could not provide information on the Detroit Arsenal Tank Plant volume of business, operating expenses or personnel strength. The primary reason was that no plant commander, or contracting officer's representative had been assigned to manage the plant and represent the government's interest; there was no central organization that maintained the requested data. Contract administration was being handled directly under TACOM at a location far removed from the plant. Approximately 37 separate contracts were involved, not counting the XM-1, and approximately seven contracting officer personnel administered the TACOM contracts. Production business was being carried out directly by M-60 Project Manager personnel with Chrysler officials, and development was being handled by the M-60 Project Manager for Development. The XM-1 RDTE project was being accomplished outside TACOM jurisdiction, direct with the Chrysler and General Motors contracts at TACOM's tank plant. "There was no single TACOM organizational element or government official that TACOM, or anyone else, could go to and find out how this GOCO facility was being managed and at what cost to the government."⁴¹

⁴⁰Ibid.; pp. 20-21, Chart 40.

⁴¹Ibid.; pp. 21-22, Chart 42.

ARMY MISSILE PLANTS

DOLLAR VALUE OF MATERIEL AND SERVICES DELIVERED AND OPERATING COSTS

FY-70/75

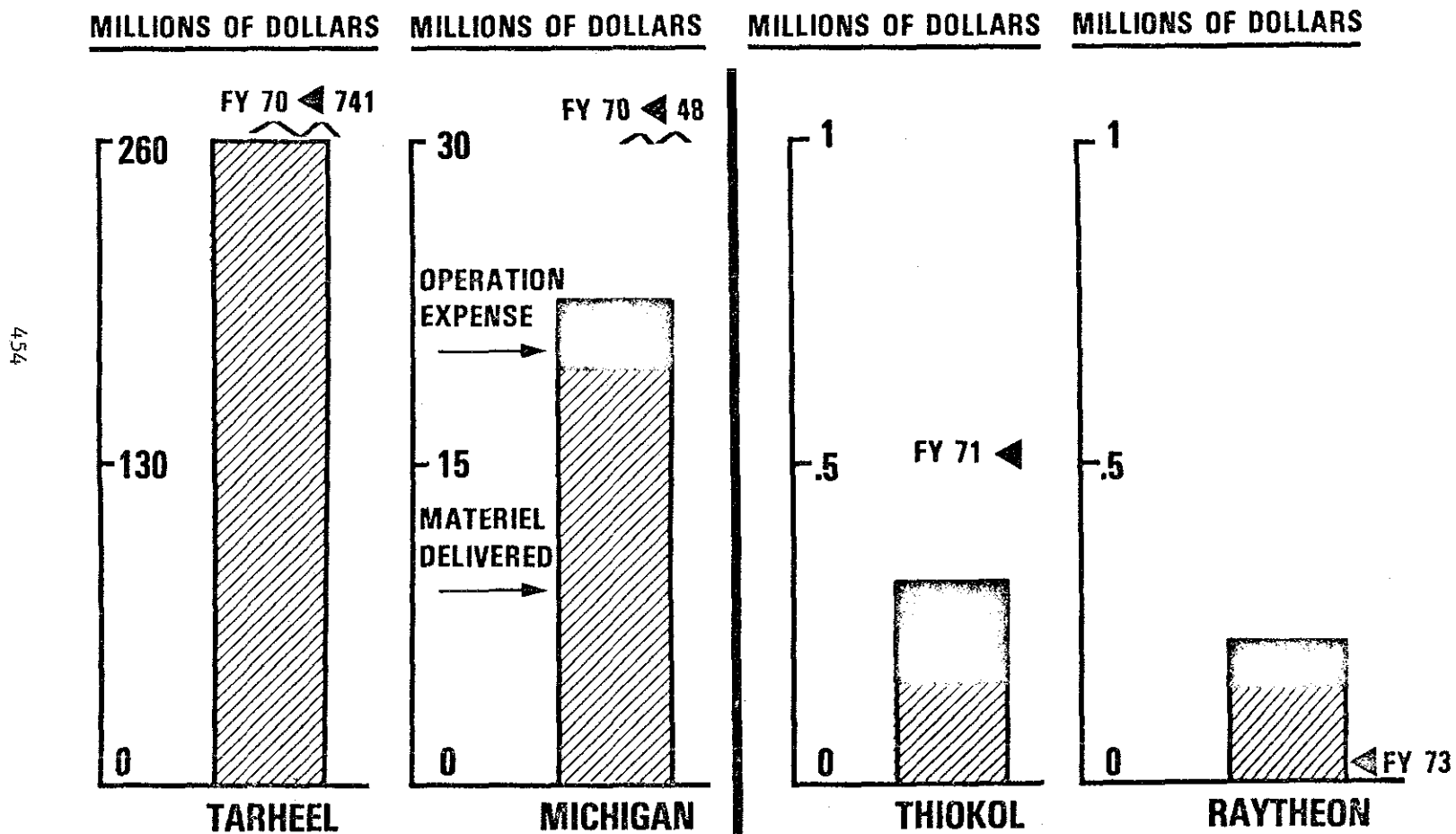


Figure 37

(U) In March, 1975, the Detroit Arsenal Tank Plant was assigned a commander and about the same time the plant was reorganized with TACOM making an effort to operate the plant as a standard GOCO facility. However, in the view of the AMC Comptroller, much yet needed to be done before the Detroit Tank Plant would operate like other U.S. Government and AMC facilities with a single commander or government official representing all contracting officials and contractors doing business with the GOCO plant.⁴²

(U) Figure 15 indicates the estimated annual expenditures at the Detroit Arsenal Tank Plant for the period FY 1971-FY 1975. Lima Tank Plant, the only other tank facility, was inactive and not measured. The estimated dollar value of materiel is indicated at the lower part of each bar on Figure 15. Indirect overhead is shown at the upper part of the bar. The RDTE expense in FY 1974 and FY 1975 was for the XM-1.⁴³

(U) The status of readiness of the AMC aircraft, missile, chemical, iron, tank, and phosphate plants are indicated on Figure 16. In the area of modernization and readiness, the AMC Comptroller concluded that there was a need to determine if long range plans were required for modernization of AMC production plants other than ammunition, which were under modernization. The Comptroller recommended that the Project Manager for Munitions Production Base Modernization and Expansion be given the responsibility for making this determination.⁴⁴

Production Facilities Directed Actions

(U) Following the presentation of the AMC production facilities evaluation and responding to the recommendations of the AMC (redesignated DARCOM effective 23 January 1976) Comptroller, the Assistant Deputy for Materiel Readiness directed that the Director of Requirements and Procurement be responsible for assuring that approved recommendations be implemented by the appropriate major subordinate command as follows:⁴⁵ Perform periodic independent evaluations of the implementation of the Uniform Cost Accounting and Reporting System and brief the DARCOM Comptroller on a quarterly basis. Establish goals and monitor indirect overhead expenses at each individual plant level and at the total Army Ammunition Plants level, ARMCOM. Develop complete staffing guides for the corresponding staffs at the plants. Establish guides and monitor supervisory ratios of all plant personnel (Federal and contractor separately). Assure synchronization of each plant's modernization plan with its mobilization mission. Develop plans for

⁴²Ibid.; p. 23

⁴³Ibid.; p. 23

⁴⁴Ibid.; pp. 24-25, Charts 46, 47.

⁴⁵Memorandum for Record, DRCCP-PA, 10 March 1976, Subject: Production Facilities, CAMERA No. 9-76, signed: R.H. Ruhland, Deputy Comptroller (attached to CAMERA FEEDBACK cited)

DETROIT ARSENAL TANK PLANT ESTIMATED ANNUAL EXPENDITURES

FY-71/75

BREAKOUT OF ESTIMATED ANNUAL EXPENDITURES

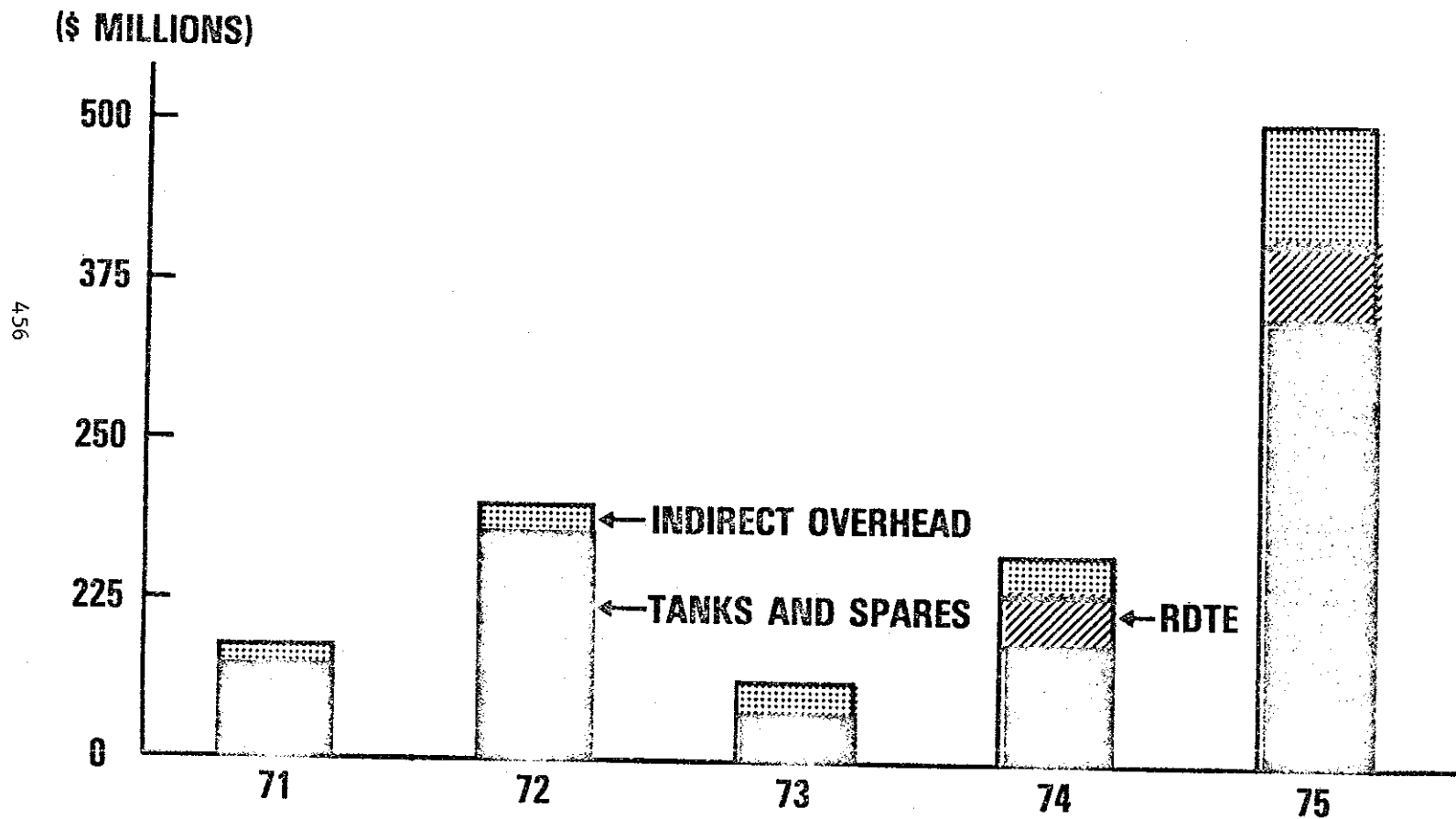


Figure 38

AMC AIRCRAFT, MISSILE, CHEMICAL, IRON, TANK, AND PHOSPHATE PLANTS

STATUS OF READINESS

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CATEGORY 1

MICHIGAN MISSILE PLANT
TARHEEL MISSILE PLANT
RAYTHEON MISSILE PLANT
THIOLKOL CHEMICAL PLANT

CARBONYL IRON & NICKOL PLANT

CATEGORY 2

SAGINAW AIRCRAFT PLANT

DETROIT TANK PLANT

* LIMA TANK PLANT

CATEGORY 3

* PHOSPHATE DEVELOPMENT WORKS

* INACTIVE

CATEGORIES:

1. READY FOR USE
2. CONSIDERABLE REPAIRS AND REPLACEMENT REQUIRED
3. MAJOR REPAIRS, REPLACEMENT AND ACQUISITIONS REQUIRED

procurement of mobilization items now assigned to plants that cannot produce them. Develop goals and monitor progress made on reduction of contracts at plants with multiple contracts. Advise the DARCOM R&P director quarterly until the project has been completed. Develop and use a plants' reports guide with standard manhours and average cost per report. Perform necessary research to assure all reports requested are being utilized. Develop manhours and cost standards and monitor all non-production type workloads on a recurring basis. Develop standards and monitor supervisory ratios of federal personnel at the aircraft plants. Assure agreement between Contracting Officers and Contractors on initial parts and spares delivery schedules by aircraft plants. Develop procedures/assure scheduled delivery of serviceable GFE by DARCOM depots to aircraft plants. Revise procedures/assure GFE provided by DARCOM, DSA and GSA to plants is identified to corresponding contracts. Assign to the Detroit Arsenal Tank plant commander full responsibility and authority under the TACOM commander for management of the entire tank plant and administration of all plant contracts. Establish objectives and develop procedures with full financial visibility and sound personnel practices for federal management of the entire tank plant.

AMC Headquarters Realignment

(U) On 31 March 1975, the Chief of Staff, AMC, chartered a special study group from within the Headquarters, AMC. The charter for the group, "Review of Organization and Mission Accomplishment of Headquarters, AMC," directed that an in-depth study be performed to: achieve an optimum HQ, AMC staff structure with a minimum average grade and number of personnel to accomplish the headquarters mission and required functions and to determine the necessity for functional responsibilities, and organizational placement of elements which directly support the HQ, AMC.⁴⁶

(U) Further guidance given the study group by the AMC Command Group reminded the study group that AMC was moving toward the creation of development centers with no intervening commands between them and Headquarters, AMC. The study group was also to develop a concept that would reorganize the AMC Headquarters to minimize the number of materiel acquisition and logistics readiness interface problems at the headquarters and would emphasize decentralization of operational-type functions to the major subordinate commands and field agencies which report direct to the Commander, AMC.

⁴⁶Report "Study to Align AMC's Functions (STAAF)" by Leslie R. Sears, Jr., MG, USA, Chairman, Study Group, US Army Materiel Command, August 1975, p. 1 (In AMC Historical Office Sources Collection).

(U) The study group was also asked to be aware that the DA staff was considering decentralization of certain materiel functions from DA to AMC and had under exploration other possible Headquarters, AMC reorganization schemes concerning management improvement of the Army systems acquisition and logistics missions.

(U) The STAAF (Study to Align AMC's Functions) group was also to investigate the feasibility and practicability of establishing a "Corporate Type" Headquarters, AMC. If practicable, the corporate type headquarters was to be patterned along management concepts used by major industrial concerns.

(U) The STAAF Group, chaired by MG Leslie R. Sears, Jr. formulated the following assumptions: eight development centers, six readiness commands, a test and evaluation command, forty-four field activities, fourteen depots, and approximately nine project managers would be reporting to Headquarters, AMC; AMC's mission would be expanded within the next several years because of transfers of functions from DA Staff to Headquarters, AMC; top level resource management, policy and programs development, and analysis and evaluation functions would remain at Headquarters, AMC; day-to-day operational functions, and commodity oriented functions were candidates for transfer to AMC subordinate commands and field activities; and field activities reporting directly to the Commander, AMC and supporting Headquarters, AMC would be retained and expanded as necessary to meet decentralization goals.⁴⁷

(U) The STAAF study group examined the three military department materiel commands comparing personnel sizes of headquarters, support elements and field command subordinates. It was found that AMC with a headquarters strength of approximately two percent of the entire command ranked in the middle between the Navy which had a ratio of 1% and the Air Force whose ratio was 2.7 percent. As another comparison, the personnel sizes of support activities as contrasted with total headquarters sizes revealed that AMC had a 7 percent support ratio, Air Force had a 24 percent ratio, and Navy had an 80 percent ratio. Thus in reality, the smaller Navy headquarters size proved cosmetic, and did not serve as a basis for a true comparison between that headquarters and Headquarters, AMC. A yet further comparison revealed that the Army Materiel Command was larger than the Naval Materiel Command, but both of these proved to be significantly smaller than the combined Air Force Materiel Commands.

(U) The Commander, AMC, desired that the STAAF group examine industry's corporate structure to determine the feasibility of AMC's incorporation of their effective management techniques. The group

⁴⁷ Ibid.; p. 2-3.

examined three: Texas Instruments, Incorporated; Textron Incorporated; and the Boeing Company. A major feature of these companies was that senior management groups determined overall policy, issued top level guidance, developed goals, and objectives, and allocated major blocks of resources to subordinate divisions in pursuit of their goals. Another feature was that subordinate elements had either an official vote or an unofficial influence on these top level bodies in the issuance of policy, guidance and resources. A third feature was that senior level management permitted a small percentage of programs to be in trouble. In these instances, senior management actively assisted in problem solving. From this, the study group surmised that AMC would do well to consider adopting some of the better management techniques, such as: establishment of a small headquarters by maximum decentralization, take advantage of participative management from subordinate commanders; and tolerate a small percentage of its programs to be in trouble, and assist in resolving the problems.⁴⁸

(U) The study objectives were met which proposed a management definition of a new way of doing business; the establishment of a smaller, hard-hitting "corporate-type" headquarters; an identification of functions together with a proposed phasing schedule to accomplish a maximum decentralization of functions to the field; a means whereby management of emerging development centers and logistics commands will be accommodated; a retention of the capability to manage resources, develop programs and policy, and to evaluate performance.

(U) The proposed Headquarters, AMC, organization would have the responsibility for providing top level policy, guidance, direction, planning, programming, budgeting, resource management and allocation, and evaluation. The proposal also would: have a total Headquarters, AMC, military and civilian personnel strength of approximately 1400; maximize the use of the Select Committee (SELCOM) at the senior management level; eliminate the position of Deputy Commanding General, AMC; staff the positions of Deputy Commanding General for Materiel Acquisition (DCGMA) and Deputy Commanding General for Materiel Readiness (DCGMR) at the authorized rank of Lieutenant General.

(U) The concept would also realign the organizational element of the Office of the DCGMA to include Directorates for Development and Engineering, and Requirements and Procurement. It would also include the Office for Project Management, Laboratory and Development Center Management, International Development, Systems Integration and Advanced Concepts, and Product Improvement Programs. The total strength of this organizational element was proposed to be approximately 370.

⁴⁸Ibid.; p. 3-4

personnel spaces. Procedural interrelationships between these several offices and directorates were currently being refined, as well as the procedural interrelationships between the DCGMA organizational structure and its counterpart DCGMR element of the headquarters.

(U) The concept would realign the organizational element of the Office of the DCGMR to include Directorates for Materiel Readiness; Materiel Management; and Doctrine, Plans and Systems. In the area of International Logistics, a Command is proposed to be organized and established by combining the HQ, AMC, Directorate for International Logistics with the International Logistic Center at New Cumberland, PA. The commander of this new organization would report to the DCGMR. The total strength of the office of the DCGMR was proposed to be approximately 290 personnel spaces.

(U) Additional realignments would reduce HQ, AMC, special staff elements from the contemporary strength of 248 to 135 personnel spaces. This reduction resulted primarily from decentralization actions. The office of the Comptroller would be retained and the Directorates for Quality Assurance; Personnel, Training and Force Development; Management Information Systems; and Installations and Services essentially as structured. Some personnel and functions within these organizations however, will be decentralized to the field. It was also proposed to remove from the Directorate of Plans and Analysis its current analysis mission, thereby creating a Directorate for Plans.

(U) The heartbeat of HQ, AMC, would be the management of the interface between that portion of the headquarters staff which would address the materiel acquisition mission and that element which would manage the materiel readiness mission. Special task forces were refining the interface procedures to assure improved control of requirements determinations, integrated logistics support planning, programming and budgeting, engineering functions which would support both development centers and logistics commands, and tasks associated with transitioning the management of materiel systems from development centers to logistics commands. The proposed HQ, AMC, reorganization would accommodate the results of the foregoing special studies, and would improve interface management⁴⁹ according to the concept report of the AMC Realignment Study Group.

(U) The proposal would reduce HQ, AMC's overall strength by two methods. First, by transferring functions and personnel from the Headquarters to the field, and second, by elimination of personnel spaces after elimination of the function, or by transferring the function without spaces to the field. The reductions proposed were as follows:

⁴⁹Ibid.; pp. 5-6.

TRANSFERRED WITH FUNCTIONS

Office of the General Counsel.....	19
Safety Office	10
Security Office	11
Office of the Inspector General	16
HQ, Administrative Management Office	16
Directorate for Communications-Electronics.....	15
Directorate for Management Information Systems.....	26
Directorate for Installations & Services.....	8
Office of the Chief of Staff/Secretary of the General Staff.....	4
Directorate for Research, Development & Engineering...	9
Directorate for Supply.....	69
Directorate for Maintenance.....	8
Directorate for International Logistics.....	126
Office of Logistic Management.....	4
Office of the Comptroller.....	15
Directorate for Plans and Analysis.....	7
Directorate for Personnel, Training and Force Development.....	11
Directorate for Quality Assurance.....	19
TOTAL.....	393

ELIMINATIONS FROM HQ, AMC

Office of the Deputy Commanding General.....	3
Office of the DCGMA.....	1
Office of the Secretary of the General Staff.....	3
Office of the Special Assistant for Nuclear Affairs...	4
Office of the Special Assistant for Chemical/ Biological Affairs.....	4
Office of the Chief Scientist.....	3
Aviation Office.....	5
Directorate for Research, Development and Engineering.....	122
Directorate for Requirements and Procurement.....	89
Directorate for Supply.....	12
Directorate for Maintenance.....	42
Office of Logistic Management.....	4
Office of the Comptroller.....	3
Directorate for Plans and Analysis.....	7
Directorate for Personnel Training and Force Development.....	1
Information Office.....	2
Undistributed.....	8
TOTAL.....	315

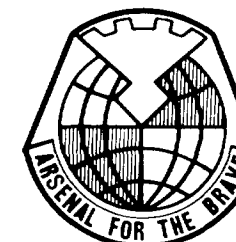
(U) The 30 June 1975 Table of Distribution and Allowances for Headquarters, AMC provided a strength of 2,128 military and civilian personnel for the HQ. The proposed HQ, AMC, organization would have a strength of 1,420; this latter figure would be achieved by transferring 393 personnel from the HQ, AMC, together with an elimination of 315 positions. It was proposed that the HQ, AMC, reorganization begin on or about 1 August 1975, and be completed by 31 December 1976. Actual transfers of personnel would begin on 1 April 1976 and be completed by 1 September 1976. Reductions in Force (RIF) would begin with the issuance of RIF letters by 1 April 1976, and would be completed by 1 November 1976. A two-month period was provided to allow for administrative proceedings. The HQ, AMC, was scheduled to be reorganized by 31 December 1976.⁵⁰

(U) The Headquarters, AMC, realignments would be conducted concurrently with the AMC-wide realignments proposed by the AMARC study mentioned in Chapter I, "Command Management."

⁵⁰Ibid.; pp. 6-7.

US ARMY MATERIEL COMMAND

OCTOBER 1975



COMMANDING GENERAL
DEPUTY COMMANDING GENERAL
DEPUTY CG FOR MATERIEL DEVELOPMENT
DEPUTY CG FOR MATERIEL READINESS
CHIEF OF STAFF
DEP CHIEF OF STAFF & SECY OF THE GEN STAFF

GEN J. R. DEANE, JR. 10E08 49625/49629 AMCCG
 LTG W. W. VAUGHAN 10E20 49641/49640 AMCDG
 LTG G. SAMMET, JR. 10N24 49705/49709 AMCDMD
 MG E. J. D'AMBROSIO 10N36 49700/49699 AMCDMR
 BG R. L. KIRWAN 10E14 49638/49634 AMCCS
 COL R. D. CROSBY, JR. 10S60 49644/49648 AMCDCS

COMPTROLLER
 MG L. R. SEARS, JR.
 Programs, Budgets, Fund Allocations, Financial Controls, Accounting Systems, Management and Economic Analysis, Review and Analysis, Cost Analysis, Internal Review and Audit Compliance, Management and Productivity Improvement, and Idea Interchange. 274-9131

DIRECTORATE FOR PERSONNEL TRAINING AND FORCE DEVELOPMENT
 BG L. S. WRIGHT
 Military and Civilian Personnel Management, Force Development, Race Relation/EO, and Alcohol/Drug Abuse Prevention. 274-8195

DIRECTORATE FOR PLANS AND ANALYSIS
 COL J. W. BRENNAN
 Command Planning, Systems Analysis, Mission and Organization, Studies Control, Environmental Control, and Military Plans. 274-9472

DIRECTORATE FOR MGT INFORMATION SYSTEMS
 MR. J. C. GILBERT
 Concepts, Objectives, Policies, Plans Projects and Programs related to Automatic Data Processing and Management Information Systems. 274-8627

HEADQUARTERS	DIRECTORATE FOR INSTALLATIONS AND SERVICES COL W. G. WOLFE Master Planning, Real Estate, Construction, Repairs and Utilities, Family Housing, Equipment Management, Support Services. 274-9041	DIRECTORATE FOR QUALITY ASSURANCE MR. S. J. LORBER Total Quality System for AMC, Integrating, Metrology, Calibration, Reliability, Product Testing, Quality Control, Product Inspection and Value Engineering. 274-8929	DIRECTORATE FOR RESEARCH DEVELOPMENT & ENGINEERING BG H. A. GRIFFITH Research, Development, Test and Evaluation, Technical Intelligence, and Product and Production Engineering. 274-9490	DIRECTORATE FOR REQUIREMENTS AND PROCUREMENT BG H. F. HARDIN, JR. Logistics Management, Including Requirements Determination, Budgeting, Programming, Rebuild and Disposal Direction and Distribution Management, Procurement and Production, Small Business, and Industrial Readiness Planning. 274-8159	DIRECTORATE FOR SUPPLY BG F. C. SHEFFEY, JR. Packaging, Distribution, Transportation, and Cataloging Stock Fund, Materiel Readiness and Designated Readiness Improvement Programs, DSA/GSA Items in Support of Army. 274-8539	DIRECTORATE FOR INTERNATIONAL LOGISTICS BG J. E. FIX, III Policies, Program Goals and Objectives for all International Logistics Programs. 274-8380
	DIRECTORATE FOR MAINTENANCE BG W. E. EICHER AMC Materiel Maintenance Activities 274-9718	AMC COMMITTEE-ARMAMENT MG B. L. LEWIS 274-8401	OFFICE OF PROJECT MANAGEMENT COL L. M. EEK, JR. 274-9570	EQUAL EMPLOYMENT OPPORTUNITY OFFICER MR. T. R. ADAMS 274-9690	SAFETY OFFICE MR. W. G. QUEEN 274-8848	OFFICE OF LOGISTIC MANAGEMENT COL R. A. READE 274-9615
	SPECIAL ASSISTANTS Technical Relations Advisor Mr. H. Handler 274-9630 Nuclear Affairs Mr. J. Gensior 274-9554 Congressional Affairs Mr. C. R. Smith 274-8263 Joint Activities Coordinator COL J. W. Lauterbach 274-9714 Chemical & Biological Affairs MAJ J. Floyd, Jr. (Act) 274-9609	AVIATION OFFICE COL B. L. ODNEAL 274-8000	INFORMATION OFFICER COL R. J. BERENS 274-8010	HEADQUARTERS ADMINISTRATIVE MANAGEMENT OFFICER COL O. A. MORAN 274-8134	OFFICE OF THE CHAPLAIN COL L. F. STEGMAN 274-8020	HISTORICAL OFFICE DR. D. BIRDELL 274-9021

MAJOR SUBORDINATE COMMANDS	COMMAND HEADQUARTERS		US ARMY AVIATION SYS COMMAND		US ARMY MISSILE COMMAND		US ARMY ELECTRONICS COMMAND		US ARMY TANK-AUTOMOTIVE COMD		US ARMY TROOP SUPPORT COMMAND		US ARMY TEST & EVALUATION COMD		US ARMY ARMAMENT COMMAND		
	ST. LOUIS, MO		MG E. H. JOHANSEN		REDSTONE ARSENAL, AL		MG G. E. TURNMEYER		FORT MONMOUTH, NJ		WARREN, MI		ST. LOUIS, MO		ROCK ISLAND, IL		
INSTALLATIONS AND ACTIVITIES	Integrated Commodity Management of Aeronautical and Air Delivery Equipment and of Test Equipment that is a part of, or used with, Assigned Materiel, Basic and Applied Research concerning Assigned Materiel Development.		Integrated Commodity Management of Free Rockets, Guided Missiles, Ballistic Missiles, Target Missiles, Air Defense Missile Fire Coordination Equipment, Related Special Purpose and Multi-System Test Equipment and Test Equipment which is a part of, or used with, Assigned Materiel, Missile Launching and Ground Support Equipment, Missile Fire Control Equipment, and other Associated Equipment, Basic and Applied Research Concerning Assigned Materiel Development.		Integrated Commodity Management of Communications Equipment, Communications-Electronics Equipment, Electronic Warfare, Aviation Electronics, Combat Surveillance, Target Acquisition and Night Vision, Equipment, Photographic and Microfilming, Identification-Friend or Foe Systems, Automatic Data Processing, Radar (Excluding that used in Fire Control and Fire Coordination of Air Defense Systems Assigned to another Command for Management), Meteorological and Electronic Radiological Detection Materiel, Assigned Batteries and Electric Power Generation Equipment, Determine Vulnerability of Army Missiles and Communications Electronic Equipment and Systems to Electronic Measures (ECM) and Determine Requirements for ECM Subsystems and Techniques to Increase Army Missile System Effectiveness, and Test Equipment which is a part of, or used with, Assigned Materiel, and Electronic Parts and Materials common to Electronic Materiel throughout the Army, Basic and Applied Research Concerning Assigned Materiel Development.		Integrated Commodity Management of Construction Equipment and Combat (Less Self-Propelled Artillery) Tactical Wheeled and General Purpose Vehicles and Test Equipment which is a part of, or used with, Assigned Materiel, Basic and Applied Research Concerning Assigned Materiel Development.		Integrated Commodity Management of Surface Transportation Equipment (Other than Tactical Wheeled and General Purpose Vehicles); Mapping and Geodesy Equipment for The Field Armies; Assigned Electric Power Generation Equipment; Barrier Equipment (Including Mine Warfare and Demolitions Equipment); Bridging and Stream-Crossing Equipment; Petroleum Handling and Dispensing Equipment; General Support Equipment and Supplies (Fire Fighting, Industrial Engines, Heating and Air Conditioning, Water Purification, Materials Handling, etc.); Test Equipment that is a part of, or used with, Assigned Materiel.		Engineering (Except Aircraft Performance, Stability and Control), and Service Tests and Evaluations, Support Engineer Design, Production, and Post Production Tests, and Participation in Troop Test Planning; Manage and Operate a National Missile Range at WSMR, New Mexico.		Integrated Commodity Management of Armament Systems, Including Artillery Weapons, Crew-Served Weapons, and Aircraft Weapon Systems; Fire Control Equipment (Excluding that Integral to Missile Systems and Air Defense Fire Coordination Systems); Nuclear and Nonnuclear Ammunition; Rocket and Missile Warhead Sections; Demolition Munitions, Mines, Bombs, Grenades, Pyrotechnics, Boosters, Jato's, and Gas Generators; Radiological Materiel, Propellant Actuated Devices; Common-Type Tools and Common-Type Tool and Shop Sets (Excluding DSA and GSA Items); and Test Equipment that is a part of or used with, Assigned Materiel, Basic and Applied Research Concerning Assigned Materiel Development.				
	Zip Code 63166 Area Code 314 Tel. 268-2201 Autovon 698-XXXX		Zip Code 35809 Area Code 205 Tel. 876-0011 Autovon 746-XXXX		Zip Code 07703 Area Code 201 Tel. 532-9000 Autovon 992-XXXX		Zip Code 48090 Area Code 313 Tel. 573-1000 Autovon 273-XXXX		Zip Code 63120 Area Code 314 Tel. AM3-1110 Autovon 693-XXXX		Zip Code 21005 Area Code 301 Tel. 278-3672 Autovon 870-XXXX		Zip Code 61201 Area Code 309 Tel. 793-XXXX				
INSTALLATIONS/ACTIVITIES		INSTALLATIONS/ACTIVITIES		INSTALLATIONS/ACTIVITIES		INSTALLATIONS/ACTIVITIES		INSTALLATIONS/ACTIVITIES		INSTALLATIONS/ACTIVITIES		INSTALLATIONS/ACTIVITIES		INSTALLATIONS/ACTIVITIES		INSTALLATIONS/ACTIVITIES	
USA AVN Eng Flt Actv., Edwards AFB, CA USA Air Mobility Rsch & Dev Lab, Moffett Field, CA USA St. Louis Spt Cen, Granite City, IL		USA Metrology & Calibration Cen., Redstone Ars., AL USA Missile Intelligence Agcy., Redstone Ars., AL USA Missile Rsch, Dev, & Engr Lab, Redstone Ars., AL		USA Research & Development, Tech Spt Actv., Ft. Monmouth, NJ USA Electronics Technology & Devices Lab, Ft. Monmouth, NJ USA Combat Surveillance & Target Acquisition Lab, Ft. Monmouth, NJ USA Communications & ADP Lab, Ft. Monmouth, NJ USA Atmospheric Sciences Lab, White Sands Missile Range, NM USA Electronic Warfare Lab, Ft. Monmouth, NJ USA Avionics Lab, Ft. Monmouth, NJ USA Night Vision Lab, Ft. Belvoir, VA USA TV-Audio Spt Actv., Sacramento, CA USA Comsec Log Agcy., Ft. Huachuca, AZ		USA Lima Army Modification Center, Lima, OH USA Mobility Systems Lab., Warren, MI Detroit Arsenal, Warren, MI USA TACOM Spt. Actv., Selfridge Air Nat'l Guard Base, MI		USA Charleston Storage Activity, N. Charleston, SC USA Gen Materiel & Petrl Actv., New Cumberland, PA USA Sup Actv., Phila., PA		USA Aberdeen PG, Aberdeen, MD Dugway Proving Ground, UT Jefferson PG, Madison, IN USA Arctic Test Center, Ft. Greely, AK USA Elec PG, Ft. Huachuca, AZ USA Tropic Test Center, Ft. Clayton, CA White Sands Msl Range, NM Yuma PG, Yuma, AZ		Alabama, Childersburg, AL Badger, Baraboo, WI Burlington, Burlington, NJ Cannon, Grand Island, NE Gateway, St. Louis, MO Hays, Pittsburg, PA Holston, Kingsport, TN Indiana, Charlestown, IN Iowa, Burlington, IA Joliet, Joliet, IL Kansas, Parsons, KS Lake City, Independence, MO Lone Star, Texarkana, TX		Longhorn, Marshall, TX Louisiana, Shreveport, LA Milan, Milan, TN Newport, Newport, IN Phosphate Dev Works, Muscle Shoals, AL Radford, Radford, VA Ravenna, Ravenna, OH Riverbank, Riverbank, CA St. Louis, St. Louis, MO Scranton, Scranton, PA Sunflower, Lawrence, KS Twin Cities, Minneapolis, MN Volunteer, Chattanooga, TN			
INDUSTRIAL PLANTS		INDUSTRIAL PLANTS		INDUSTRIAL PLANTS		INDUSTRIAL PLANTS		INDUSTRIAL PLANTS		INDUSTRIAL PLANTS		INDUSTRIAL PLANTS		INDUSTRIAL PLANTS		INDUSTRIAL PLANTS	
USA Bell Plant Actv., Ft. Worth, TX USA Boeing-Vertol Plant, Actv., Philadelphia, PA USA Grumman Plant Actv., Stuart, FL USA Hughes Plant Actv., Culver City, CA		Michigan Army Msl. Plant, Warren, MI Tahoeel Army Msl. Plant, Burlington, NC		USA TV-Audio Spt Actv., Sacramento, CA USA Comsec Log Agcy., Ft. Huachuca, AZ		USA TACOM Spt. Actv., Selfridge Air Nat'l Guard Base, MI		USA Tropic Test Center, Ft. Clayton, CA White Sands Msl Range, NM Yuma PG, Yuma, AZ		USA Tropic Test Center, Ft. Clayton, CA White Sands Msl Range, NM Yuma PG, Yuma, AZ		USA Tropic Test Center, Ft. Clayton, CA White Sands Msl Range, NM Yuma PG, Yuma, AZ		USA Tropic Test Center, Ft. Clayton, CA White Sands Msl Range, NM Yuma PG, Yuma, AZ		USA Tropic Test Center, Ft. Clayton, CA White Sands Msl Range, NM Yuma PG, Yuma, AZ	
NATIONAL MAINTENANCE POINT		NATIONAL MAINTENANCE POINT		NATIONAL MAINTENANCE POINT		NATIONAL MAINTENANCE POINT		NATIONAL MAINTENANCE POINT		NATIONAL MAINTENANCE POINT		NATIONAL MAINTENANCE POINT		NATIONAL MAINTENANCE POINT		NATIONAL MAINTENANCE POINT	
US Army Aviation Systems Command, St. Louis, MO		US Army Missile Command, Redstone Arsenal, AL		US Army Electronics Command, Ft. Monmouth, NJ		US Army Tank-Automotive Command, Warren, MI		US Army Troop Support Command, St. Louis, MO		US Army Troop Support Command, St. Louis, MO		US Army Troop Support Command, St. Louis, MO		US Army Troop Support Command, St. Louis, MO		US Army Troop Support Command, St. Louis, MO	
NATIONAL INVENTORY CONTROL POINT		NATIONAL INVENTORY CONTROL POINT		NATIONAL INVENTORY CONTROL POINT		NATIONAL INVENTORY CONTROL POINT		NATIONAL INVENTORY CONTROL POINT		NATIONAL INVENTORY CONTROL POINT		NATIONAL INVENTORY CONTROL POINT		NATIONAL INVENTORY CONTROL POINT		NATIONAL INVENTORY CONTROL POINT	
US Army Aviation Systems Command, St. Louis, MO		US Army Missile Command, Redstone Arsenal, AL		US Army Electronics Command, Ft. Monmouth, NJ		US Army Tank-Automotive Command, Warren, MI		US Army Troop Support Command, St. Louis, MO		US Army Troop Support Command, St. Louis, MO		US Army Troop Support Command, St. Louis, MO		US Army Troop Support Command, St. Louis, MO		US Army Troop Support Command, St. Louis, MO	

OTHER INSTALLATIONS AND ACTIVITIES

PROJECT/PRODUCT MANAGERS LOCATED AT HEADQUARTERS, AMC			
SAUDI ARABIA NATL GUARD (SANG)	BG R. D. LAWRENCE	274-9126	
ARMY CONTAINER ORIENTED DISTR SYS	MR. CARROLL SCHIPP (ACT)	274-8800	
LOCATED OUTSIDE HEADQUARTERS, AMC			
Advanced Attack Helicopter	BG S. G. Cockerham	St. Louis, MO	698-2927
Advanced Scout Helicopter	COL E. M. Browne	St. Louis, MO	698-6327
Aircraft Survivability Equipment	LTC J. L. Keaton	St. Louis, MO	698-3961
Aircraft Systems Integration	LTC J. J. Tap	St. Louis, MO	698-6864
Army Tactical Comm Systems	COL J. P. Dobbins	Ft. Monmouth, NJ	995-2109
Army Tactical Data Systems	BG W. J. Hilsman	Ft. Monmouth, NJ	992-4612
Canon Artillery Weapons Sys	COL F. P. Rogano	Rock Island, IL	793-6626
CH-47 Modernization Program	LTC(P) J. M. Hesson	St. Louis, MO	698-3984
Chemical Demil & Instl Restoration	BG S. H. Bass, Jr.	Aberdeen, PG, MD	584-4467
COBRA	COL C. F. Drenz	St. Louis, MO	698-2331
1-1/4 Ton Commercial Truck Sys	LTC L. S. Marrella	Warren, MI	273-2780
DCS (Army) Communications Systems	MG G. S. Grombacher	Ft. Monmouth, NJ	995-5103
DRAGON	COL A. L. Goodall	Redstone Ars., AL	746-7194
FAMECE and UET	COL M. B. Scheider	Ft. Belvoir, VA	354-1116
HAWK	COL E. W. Deadwyler	Redstone Ars., AL	746-5609
Heavy Equip Transporter	COL J. R. Brinton	Warren, MI	273-1219
Heavy Lift Helicopter	COL R. D. Kenyon	St. Louis, MO	698-6464
HELLFIRE	COL F. J. Palermo	Redstone Ars., AL	746-1117
High Energy Laser System (HELs)	COL R. C. Morrison	Redstone Ars., AL	746-2382
Iranian Aircraft Program (IAP)	COL E. M. Agunanno	St. Louis, MO	698-3741
Kuwait Missile System Program	COL M. J. Small	Redstone Ars., AL	746-3196
LANCE	LTC(P) D. P. Whalen	Redstone Ars., AL	746-6144
M-60 Tank Development	COL D. H. Williamson, Jr.	Warren, MI	273-2831

HEADQUARTERS US ARMY MATERIEL COMMAND

5001 EISENHOWER AVE., ALEXANDRIA, VA 22333

STAFF DIRECTORY



OFFICE OF DEPUTY CG FOR MAT ACQUISITION AMCDMA			
Asst Deputy for Mat Acquisition	MR. J. D. BLANCHARD	10N24 49705	AMCDMA
Asst Deputy for Science & Technology	MR. N. L. KLEIN	10N12 49558	AMCDMA-ST
Executive Ofc	LTC L. A. GIMPLE	10N24 49709	AMCDMA
SA for Minor Prog	MR. J. STOLARICK	10N12 49559	AMCDMA

OFFICE OF DEPUTY CG FOR LOGISTICS SUPPORT AMCDLS			
Asst Deputy for Logistics Support	MR. J. F. MACLIN	10N36 49701	AMCDLS
Executive Ofc	COL W. L. ROGERS	10N36 49699	AMCDLS

OFFICE OF THE CHIEF SCIENTIST			
DR. R. B. DILLAWAY		10N12 49557	AMCSC

COMMANDING GENERAL	GEN J. R. DEANE, JR.	10E08 49625	AMCCG
Deputy Commanding General	LTG W. W. VAUGHN	10E20 49641	AMCCDG
Deputy CG for Materiel Acquisition	MG G. SAMMET, JR.	10N24 49705	AMCDMA
Deputy CG for Logistics Support	MG J. W. PEZDIRTZ	10N36 49700	AMCDLS
Chief of Staff	BG R. L. KIRWAN	10E14 49638	AMCCS
Deputy Chief of Staff	COL O. J. HARRISON	10S60 49644	AMCDCS
Command Sergeant Major	CSM R. C. ECKENROD	10S48 49695	AMCCSM

COMMANDER'S PERSONAL STAFF AMCCG			
Aide-De-Camp	MAJ G. WEBB (Act)	10E08 49629	AMCCG
Secretary	MRS. J. TURNER (Act)	10E08 49626	AMCCG

DEPUTY COMMANDER'S PERSONAL STAFF AMCCDG			
Aide-De-Camp	CPT R. J. HAWKINS	10E14 49639	AMCCDG
Secretary	MRS. H. JAMES	10E14 49641	AMCCDG

SECRETARY OF THE GENERAL STAFF AMCGS			
Secy General Staff	COL O. J. HARRISON	10S60 49644	AMCGS
Dep Secy General Staff	LTC R. C. WHEELER	10S60 49648	AMCGS
Asst Secy General Staff	MAJ I. M. CLICK	10S54 49649	AMCGS
Asst Secy General Staff	MAJ B. E. SMITH	10S50 49661	AMCGS
Asst Secy General Staff	MAJ G. WEBB	10S50 49660	AMCGS
Asst Secy General Staff	MAJ O. B. WESTRY	10S50 49660	AMCGS
Chief, Protocol Office	MRS. H. L. SALPINI	10C55 49669	AMCGS-P
Administrative Officer	MISS B. A. FOSTER	10S55 49662	AMCGS-A

OFFICE OF THE COMPTROLLER AMCCP			
Compt	MG L. R. SEARS, JR.	3N58 49131	AMCCP
Deputy Compt	MR. R. H. RUHLAND	3N58 49128	AMCCP
Executive Ofc	COL B. A. LOWERY	3N58 49129	AMCCP
Administrative Ofc	MRS. L. S. BROWN	3N57 49124	AMCCP-A
Budget Div	COL J. W. LOWDEN, JR.	3N54 49235	AMCCP-B
Cost Anal Div	MR. W. A. CHAVET (Act)	3S34 49080	AMCCP-E
Fin & Acct Div	LTC J. P. DEVERS	3W06 49169	AMCCP-F
Internal Review & Audit Compliance Ofc	MR. J. K. CHURCH	3S50 49110	AMCCP-I
Mgt Div	COL P. W. MCGURL	3E10 49029	AMCCP-M
Review & Anal Div	MR. I. BERG	3S10 49050	AMCCP-R

DIRECTORATE FOR PERS, TNG & FORCE DEV AMCPT			
Director	BG L. S. WRIGHT	2E14 48195	AMCPT
Deputy Director	MR. W. S. CHARIN	2E14 48195	AMCPT
Executive Ofc	COL P. D. HAUN	2E14 48195	AMCPT
Plans & Admin Ofc	MR. C. W. ROHRER	2E18 48421	AMCPT-A
Civ Pers Div	MR. G. N. KELLET	2W20 49167	AMCPT-C
Force Dev Div	MR. J. B. MONG	2E08 48215	AMCPT-S
Mill Pers Div	COL J. W. CALLAGHAN	2S56 49325	AMCPT-M
Race Relations/EOO	COL E. F. CARROLL	2N06 49415	AMCPT-R
Alcohol & Drug Abuse Ofc	MR. D. HELBIG	2N07 49344	AMCPT-H
Schools & New Equip Training Div	COL B. ADAMS	2N32 48981	AMCPT-T

STAFF SUPPORT ACTIVITIES			
Hq Civ Pers Ofc	MR. P. BARBRE	2S32 49427	AMXMM-CO
Hq Mpr Ofc	MR. P. R. ZEKAN	2N46 48974	AMXMM-SM
Hq Mil Pers Ofc	MAJ F. SAMAS	2C45 49333	AMXMM-MR
Hq Race Relations/EOO	COL E. F. CARROLL	2N06 49415	AMCPT-R
Hq Alcohol & Drug Abuse Ofc	MR. D. HELBIG	2N07 49344	AMCPT-H
Schools & New Equip Training Div	COL B. ADAMS	2N32 48981	AMCPT-T

DIRECTORATE FOR PLANS & ANALYSIS AMCPA			
Director	COL J. W. BRENNAN	10S06 49472	AMCPA
Deputy Director	MR. D. J. SHEARIN	10S06 49472	AMCPA
Executive Ofc	MAJ J. J. SPISAK	10S06 49475	AMCPA
Environmental Con Ofc	MR. J. S. PACE	10S10 49470	AMCPA-E
Mil Plans Div	COL R. S. CRAIG	7N22 48551	AMCPA-M
Mission & Org Div	MR. R. G. SILVEY	10S18 49468	AMCPA-O
Plans & Prog Div	MR. W. C. KREMAN	10S14 49444	AMCPA-P
Sys Anal Div	COL W. C. GODWIN	10W16 49459	AMCPA-S

DIRECTORATE FOR MGT INFO SYSTEMS AMCMS			
Director	MR. J. C. GILBERT	4E16 48626	AMCMS
Deputy Director	MR. J. A. ARNTSON	4E16 48627	AMCMS
Executive Ofc	LTC J. R. MULLIGAN	4E16 48627	AMCMS
Admin Ofc	MRS. S. W. CLARK	4E13 48942	AMCMS-A
Res Div	MR. J. CIANFLORE	4S32 49144	AMCMS-I
Scientific & Mgt Info Div	DR. R. P. UHLIG	4E08 48946	AMCMS-T
Sys Oper Div	MR. H. S. MITCHELL	4N52 49140	AMCMS-E

DIRECTORATE FOR INSTALLATIONS & SERVICES AMCIS			
Director	COL W. G. WOLFE	5W12 49041	AMCIS
Deputy Director	MR. J. W. BOUCHER	5W12 49041	AMCIS
Housing Mgt Div	(VACANCY)	5N10 49012	AMCIS-H
Instr Log Spt Div	MR. W. C. HEINTZELMAN	5S06 49389	AMCIS-S
Plans, Prog & Adm Ofc	MR. J. HARTSOE	5W20 49026	AMCIS-P
Real Property Mgt Div	COL W. P. SCHILLING	5N06 49390	AMCIS-M

DIRECTORATE FOR QUALITY ASSURANCE AMCQA			
Director	MR. S. J. LORBER	4W22 48929	AMCQA
Deputy Director	MR. H. B. CROSKERY	4W22 48925	AMCQA
Executive Asst	MRS. R. DeVEAU	4W22 48930	AMCQA
Plans & Concepts Ofc	MR. W. KRACOV	7N41 48029	AMCQA-C
Product Opr Div	MR. R. F. TINER	4W20 48894	AMCQA-P
Reliability & Sys Assessment Div	MR. M. WESTMORELAND	4S06 48912	AMCQA-E

DIRECTORATE FOR RSCH, DEVELOPMENT & ENG AMCRD			
Director	BG H. A. GRIFFITH	8E08 49490	AMCRD
Deputy Director for Ops	COL W. E. ZOOK	8E08 49493	AMCRD
Deputy Director for Plans	(VACANCY)		
Executive Ofc	COL H. W. LACQUEMENT	8E08 49494	AMCRD-X
Asst Executive Ofc	CPT M. L. SIMONICH	8E08 49494	AMCRD-X
Admin Ofc	MISS LUCY A. JONES	8E10 49489	AMCRD-A
Air Sys Div	COL H. B. BEASLEY	7N08 49514	AMCRD-F
AMC Chief Mathematician	DR. B. KURJIAN	8S58 48948	AMCRD-R
Armt Sys Div	COL W. E. PHILLIPS	8S28 49782	AMCRD-W
Army Space Prog Ofc	LTC R. J. LEMANSKI	G2C63 48972	AMCRD-K
Battlefield Command & Con Div	COL R. H. ELLIOTT	8S08 49844	AMCRD-O
Eng Div	COL C. W. BARKER	8N08 49785	AMCRD-E
Foreign Science & Technology Div	COL C. J. REEDER	7S50 49022	AMCRD-I
Missiles Sys Div	COL R. J. FEIST	8N14 49825	AMCRD-M
Plans & Prog Div	(VACANCY)	8N24 49854	AMCRD-P
Rich Div	DR. H. M. EL BISI	8S57 48977	AMCRD-T
Test & Eval Div	COL J. F. BLEECKER	8S44 49445	AMCRD-U
Troop Spt Div	MR. W. T. HUNT (Act)	8N22 49812	AMCRD-G

DIRECTORATE FOR REQUIREMENTS & PROCUREMENT AMCRP			
Director	MR. G. E. DAUSMAN (Act)	9E06 48160	AMCRP
Deputy Director	COL G. E. ROYALS (Act)	9E06 48160	AMCRP
Executive Ofc	MAJ R. S. AUSTIN	9E06 48168	AMCRP
Admin Ofc	MR. W. L. STEPHENS	9N43 48170	AMCRP-A
Air Sys Div	LTC J. O. WOODARD (Act)	9W22 48353	AMCRP-F
Battlefield Command Control Sys Div	COL C. J. ROGERS	9S28 48310	AMCRP-C
Cost Performance Reporting Div	LTC L. S. MARRELLA	9N31 49240	AMCRP-K
Industrial Mgt Div	COL F. G. JOHNSON	9S48 48339	AMCRP-I
Missile Sys Div	COL R. W. SPECKER	9N08 48293	AMCRP-M
Plans & Prog Div	COL P. K. SHEETS	9E22 48189	AMCRP-P
Procurement Mgt Review Div	MR. V. O. EWELL, JR.	9S46 48179	AMCRP-R
Procurement Div	MR. C. M. SCOTT	9N56 48262	AMCRP-S
Small Business Ofc	MR. J. A. RAMIREZ	9N13 48185	AMCRP-Z
Surface Sys Div	COL W. F. WILLIAMS	9N31 48257	AMCRP-G
Weapons & Munitions Sys Div	COL E. DOLFI	9S22 48227	AMCRP-W

DIRECTORATE FOR SUPPLY AMCSU			
Director	MG E. H. JOHANSEN	6E06 48339	AMCSU
Deputy Director	(VACANCY)		
Executive Ofc	COL H. T. HALL	6E06 48098	AMCSU
Admin Ofc	MISS G. A. O'NEAL	6N49 48590	AMCSU-A
Invt & Loc Surv Ofc	MR. D. H. MAGATHAN	6S57 48701	AMCSU-I
Major Items Mgt Div	COL R. E. INGALLS	6N24 48619	AMCSU-S
Plans & Prog Ofc	MR. G. C. COX	6N44 48559	AMCSU-P
Spec Items Mgt Div	COL J. F. SENNA	6W06 48733	AMCSU-K
Stock Mgt & Policy Div	MR. R. W. DEW	6S06 48761	AMCSU-M
Stor & Trans Div	COL H. D. LARSON	6S16 48655	AMCSU-B

DIRECTORATE FOR MAINTENANCE AMCMA			
Director	BG W. E. EICHER	5N58 49718	AMCMA
Deputy Director	MR. H. J. BUKOWSKI	5N58 49719	AMCMA
Executive Ofc	COL J. J. LEEPER	5N58 49720	AMCMA
Proj Ofc for TMDE	CPT K. L. ALLRED	5N35 49173	AMCMA-T
Admin Ofc	MR. L. F. KORTUM	5E07 49738	AMCMA-A
Aircraft & Missiles/Electronics Div	COL R. D. DESCOTEAU	5N26 49884	AMCMA-E
Depot Maint Div	LTC W. YEWALL	5N16 49895	AMCMA-D
Maint Eng Div	MR. S. GORDON	5N34 49772	AMCMA-S
Plans & Prog Ofc	MR. W. W. WENDT	5E11 49731	AMCMA-P
Vehicles, Troop Support & Armament Div	COL H. B. BRAZIL	5N42 49759	AMCMA-V

DIRECTORATE FOR COMMUNICATIONS-ELECTRONICS AMCEC			
Director	COL M. M. MOORE, JR.	5S10 49394	AMCEC
Communications-Electronics Div	MR. H. T. DARRACOTT	5S10 49394	AMCEC-C

DIRETORATE FOR INTERNATIONAL LOGISTICS AMCIL			
Director	BG J. E. FIX III	5E22 48380	AMCIL
Deputy Director	(VACANCY)		
Executive Ofc	COL J. L. KENNEDY, JR.	5E22 48384	AMCIL
Admin Ofc	MR. E. J. COLEMAN	5E18 48385	AMCIL-A
Europe/Americas/Alliances Div	COL B. P. BRYSON	5S54 48398	AMCIL-E
Mideast/Africa/Pacific Div	COL C. D. FOUNTAIN	5S22 48451	AMCIL-O
Prog Mgt Div	COL R. L. WELDE	5S42 48439	AMCIL-P
Sys & Anal Ofc	MR. F. F. BROTT	5S32 48448	AMCIL-S

AMC COMMITTEE-ARMAMENT AMCSA-R			
Chairman	BG B. L. LEWIS	7S04 48401	AMCSA-R
Deputy to Chmn	COL L. T. DOYLE	7S04 48402	AMCSA-R
Chief, Economic Anal & CSJF Team	COL H. L. ARNOLD, JR.	7W12 48826	AMCSA-R
Chief, Internal Mgt Team	LTC J. F. McCALL	7S06 49532	AMCSA-R
Chief, Pers Planning Team	LTC F. L. DAY	7S04 48403	AMCSA-R
Chief, Prog Anal & Transition Team	LTC J. S. CHESBRO	7S06 49533	AMCSA-R
Chief, Org Team	COL N. E. VINSON	7S06 49533	AMCSA-R

OFFICE OF LOGISTIC MANAGEMENT AMCLM			
Chief	COL R. A. READE	10N30 49615	AMCLM
Deputy Mgt Div	MR. H. FUTCH	6S58 49516	AMCLM-D
Log Asst Div	MR. L. E. ANDERSON	6S58 48286	AMCLM-A
SA/US Army Reserve	LTC G. H. CHASE	6S58 48220	AMCLM-A
SA/US Army National Guard	LTC E. M. DUNN, JR.	6S58 48101	AMCLM-A

SPECIAL ASSISTANTS AMCSA			
Tech Rel Advisor	MR. H. HANDLER	10E14 49630	AMCSA-H
Nuclear Affairs	MR. J. GENSOL	10S24 49554	AMCSA-N
Cong Affairs	MR. C. R. SMITH	10S32 48374	AMCSA-C
Joint Actv Cord	COL J. W. LAUTERBACH	10N44 49714	AMCSA-JS
Chemical & Biological Affairs	COL J. AARON	10W12 49609	AMCSA-BC

AMC EEO OFFICE AMCEE			
AMC EEO Ofc	MR. T. R. ADAMS (Act)	7N38 49690	AMCEE
AMC Fed Women's Prog Cord	MRS. E. P. FUREY	7N38 49690	AMCEE
AMC Spanish Speaking Prog Coordinator	(VACANCY)		

HQ EEO OFFICE AMCEE-H			
Hq EEO Ofc	MR. T. R. ADAMS	5S18 49836	AMCEE-H

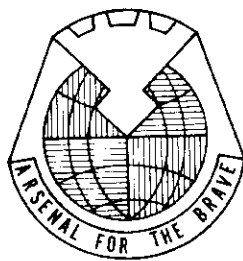
OFFICE OF PROJECT MANAGEMENT AMCPM			
Chief	COL L. M. ECK, JR.	10N18 49570	AMCPM
Asst Chief	MRS. S. CLEMENTS	10N18 49570	AMCPM
Exec/Admin Ofc	CPT T. A. JOHNSON	10N25 49579	AMCPM
Proj Ofc, ARMCOM	MAJ R. A. LOHR	10N25 49580	AMCPM
Proj Ofc, AVSCOM	MR. R. L. MICHOLSON	10N33 48373	AMCPM
Proj Ofc, ECOM	LTC J. W. KITCHIN	10N33 48372	AMCPM
Proj Ofc, MASTER	MR. J. H. DAVIDSON	10N33 48374	AMCPM
Proj Ofc, MICOM	LTC L. C. OAKES	10N41 49340	AMCPM
Proj Ofc, TACOM	MR. H. C. MELVIN	10N25 49581	AMCPM
Selected Acquisition Reports	MR. F. O. ANGEL	10N41 49340	AMCPM
Special Proj Team	LTC L. A. GIMPLE	10N19 49575	AMCPM

AVIATION OFFICE AMCAV			
Aviation Ofc	COL G. J. BOYLE, III	7N32 48000	AMCAV
Flight Stdn Ofc	CWA D. W. SWAFFORD	7N32 48006	AMCAV
Operations NCO	(VACANCY)		
Plans Ofc	MR. G. H. WALTER, JR.	7N32 48006	AMCAV
Aircraft Equip Mgr	MR. J. GOTICH	7N32 48009	AMCAV

HQ ADMINISTRATIVE MGT OFFICE AMCAM			
Chief	COL J. LYCAS	1E14 48134	AMCAM
Asst Chief	MR. J. R. GROUNDWATER	1E14 48135	AMCAM
Staff Librarian	MISS I. O. OMDAHL	7S33 48152	AMCAM-L
Communications-Electronics Ofc	MAJ H. HOLDER	G3C20 48989	AMCAM-CE
Pntg & Pub Ofc	MR. H. S. JOHNSON	1E10 48141	AMCAM-AB
AMC Record Admin	MR. E. M. THORNE, JR.	1N58 49141	AMCAM-AR

US ARMY MATERIEL COMMAND

JULY 1974



COMMANDING GENERAL
DEPUTY COMMANDING GENERAL
DEPUTY FOR LABORATORIES
DEPUTY CG FOR MATERIEL ACQUISITION
DEPUTY CG FOR LOGISTICS SUPPORT
CHIEF OF STAFF
DEP CHIEF OF STAFF & SECY OF THE
GEN STAFF
COMMAND SERGEANT MAJOR

GEN H. A. MILEY, JR.
LTG W. W. VAUGHAN
DR. R. B. DILLAWAY
MG G. SAMMET, JR.
MG H. D. SMITH
MG J. W. PEZDIRTZ
COL O. J. HARRISON
CSM R. C. ECKENROD

10E08 49625 49629 AMCCG
10E20 49641/49640 AMCDG
10N12 49557/49558 AMCDL
10N24 49705/49709 AMCDMA
10N36 49700/49699 AMCDLS
10E14 49638/49634 AMCCS
10S60 49644/49648 AMCCS
10S48 49695/49694 AMCCSM

SUMMARY: JR.
H. L. SEARS, JR.
PROGRAMS, BUDGETS, FUND ALLOCATIONS, FINANCIAL CONTROLS
ACCOUNTING SYSTEMS, MANAGEMENT AND ECONOMIC ANALYSIS, WORK
MEASUREMENT, REVIEW AND ANALYSIS, COST ANALYSIS, COST
REDUCTION, AND INTERNAL REVIEW AND AUDIT COMPLIANCE

274 9131

DEPUTY CHIEF OF STAFF FOR PERSONNEL AND FORCE DEVELOPMENT
BOB L. KIRWAN
MILITARY AND CIVILIAN PERSONNEL MANAGEMENT, MANPOWER,
TRAINING, AND ORGANIZATION AND VISION PLANS

274 8195

DIRECTORATE FOR MANAGEMENT INFORMATION SYSTEMS
MR. J. C. GILBERT
CONCEPTS, OBJECTIVES, POLICIES, PLANS, PRODUCTS AND PROGRAMS
RELATING TO AUTOMATIC DATA PROCESSING AND MANAGEMENT
INFORMATION SYSTEMS

274 9472

DIRECTORATE FOR MANAGEMENT INFORMATION SYSTEMS
MR. J. C. GILBERT
CONCEPTS, OBJECTIVES, POLICIES, PLANS, PRODUCTS AND PROGRAMS
RELATING TO AUTOMATIC DATA PROCESSING AND MANAGEMENT
INFORMATION SYSTEMS

274 8627

HEADQUARTERS

DEPUTY CHIEF OF STAFF FOR LOGISTICS
COL J. H. BOWMAN
MASTER PLANNING, REAL ESTATE, CONSTRUCTION, REPAIRS AND
UTILITIES, FAMILY HOUSING, COMMUNICATIONS ELECTRONICS,
EQUIPMENT MANAGEMENT, SUPPORT SERVICES

274 9041

DEPUTY CHIEF OF STAFF FOR QUALITY ASSURANCE
MR. S. J. LORBER
TOTAL QUALITY SYSTEM FOR AMC, INTEGRATING, METROLOGY,
CALIBRATION, RELIABILITY, PRODUCT TESTING, QUALITY CONTROL,
PRODUCT INSPECTION AND VALUE ENGINEERING

274 8529

DEPUTY CHIEF OF STAFF FOR RESEARCH, DEVELOPMENT, TEST AND EVALUATION
MR. H. W. GRIFFIN
RESEARCH, DEVELOPMENT, TEST AND EVALUATION, TECHNICAL,
INTELLIGENCE, AND PRODUCT AND PRODUCTION ENGINEERING

274 9690

DEPUTY CHIEF OF STAFF FOR REQUIREMENTS AND PROGRAMS
MR. C. M. KILLEN JR.
LOGISTICS MANAGEMENT, INCLUDING REQUIREMENTS DETERMINATION, BUDGETING,
PROGRAMMING, REBUILD AND DISPOSAL, DIRECTION AND DISTRIBUTION MANAGEMENT,
PRODUCTION AND PRODUCTION, SMALL BUSINESS, AND INDUSTRIAL READINESS
PLANNING

274 8159

DEPUTY CHIEF OF STAFF FOR SUPPLY
MR. H. J. JOHNSON
SUPPLY MANAGEMENT, INCLUDING STOCK CONTROL, STORAGE, PACKAGING,
DISTRIBUTION, TRANSPORTATION, AND CATALOGING, STOCK FUND,
MATERIAL READINESS, AND DESIGNATED READINESS IMPROVEMENT
PROGRAMS, DSA/CSA ITEMS IN SUPPORT OF ARMY

274 8538

DEPUTY CHIEF OF STAFF FOR INTERNATIONAL LOGISTICS
MR. J. E. FRAZER
POLICIES, PROGRAM GOALS AND OBJECTIVES FOR ALL INTERNATIONAL
LOGISTICS PROGRAMS

274 8380

DIRECTORATE FOR MAINTENANCE
MR. W. E. FICKER
AMC MATERIEL MAINTENANCE ACTIVITIES

274 9118

DIRECTORATE FOR MAINTENANCE
MR. W. E. FICKER
AMC MATERIEL MAINTENANCE ACTIVITIES

274 9610

DIRECTORATE FOR MAINTENANCE
MR. W. E. FICKER
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AMC MATERIEL MAINTENANCE ACTIVITIES

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DEPUTY CHIEF OF STAFF FOR SPECIAL ACTIVITIES
MR. H. HANDELER
MR. A. R. ERVIN (Act)
MR. W. A. LOPEZ
MR. P. CYR
MR. J. A. LAUTERBACH
MR. J. AARON
TECHNICAL RELATIONS ADVISOR
NUCLEAR AFFAIRS
FOO OFFICE
CONGRESSIONAL AFFAIRS
JOINT ACTIVITIES COORDINATOR
CHEMICAL AND BIOLOGICAL AFFAIRS

274 9630

DEPUTY CHIEF OF STAFF FOR SPECIAL ACTIVITIES
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MR. P. CYR
MR. J. A. LAUTERBACH
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CONGRESSIONAL AFFAIRS
JOINT ACTIVITIES COORDINATOR
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NUCLEAR AFFAIRS
FOO OFFICE
CONGRESSIONAL AFFAIRS
JOINT ACTIVITIES COORDINATOR
CHEMICAL AND BIOLOGICAL AFFAIRS

274 9630

MAJOR SUBORDINATE COMMANDS

COMMAND HEADQUARTERS

INSTALLATIONS AND ACTIVITIES

OTHER INSTALLATIONS AND ACTIVITIES

US ARMY AVIATION COMMAND
ST. LOUIS, MO.
MG J. A. HINRICH
INTEGRATED COMMODITY MANAGEMENT OF
AERONAUTICAL AND AIR DELIVERY EQUIPMENT AND
OF TEST EQUIPMENT THAT IS A PART OF OR USED
WITH ASSIGNED MATERIEL, BASIC AND APPLIED
RESEARCH CONCERNING ASSIGNED MATERIEL
DEVELOPMENT

ZIP CODE 63166

AREA CODE 314

TEL 208 2201

AUTOVON 198 XXXX

US ARMY MISSILE COMMAND
REDSTONE ARSENAL, AL
MG V. H. ELLIS
INTEGRATED COMMODITY MANAGEMENT OF FREE
ROCKETS, GUIDED MISSILES, BALLISTIC MISSILES,
TARGET MISSILES, AIR DEFENSE MISSILE, FIRE
COORDINATION EQUIPMENT, RELATED SPECIAL
PURPOSE AND MULTI-SYSTEM TEST EQUIPMENT AND
TEST EQUIPMENT WHICH IS A PART OF OR USED
WITH ASSIGNED MATERIEL, MISSILE LAUNCHING AND
GROUND SUPPORT EQUIPMENT, MISSILE FIRE
CONTROL EQUIPMENT, AND OTHER ASSOCIATED
EQUIPMENT, BASIC AND APPLIED RESEARCH
CONCERNING ASSIGNED MATERIEL DEVELOPMENT

ZIP CODE 35809

AREA CODE 205

TEL 876 0011

AUTOVON 746 XXXX

US ARMY ELECTRONIC COMMAND
FORT MONMOUTH, NJ
MG F. FOSTER, JR.
INTEGRATED COMMODITY MANAGEMENT OF COMBAT
COMMUNICATIONS EQUIPMENT, COMMUNICATIONS
EQUIPMENT, ELECTRONIC WARFARE, AVIATION
ELECTRONICS, COMBAT SURVEILLANCE, TARGET
ACQUISITION AND NIGHT VISION EQUIPMENT,
PHOTOGRAPHIC AND MICROFILMING,
IDENTIFICATION FRIEND OR FOE SYSTEMS,
AUTOMATIC DATA PROCESSING, RADAR (EXCLUDING
THAT USED FOR FIRE CONTROL AND FIRE
COORDINATION OF AIR DEFENSE SYSTEMS ASSIGNED
TO ANOTHER COMMAND FOR MANAGEMENT),
METEOROLOGICAL AND ELECTRONIC RADIOLOGICAL
DETECTION, MATERIEL, ASSIGNED BATTERIES AND
ELECTRIC POWER GENERATION EQUIPMENT,
DETERMINE VULNERABILITY OF ARMY MISSILES AND
COMMUNICATIONS, ELECTRONIC EQUIPMENT AND
SYSTEMS TO ELECTRONIC COUNTER MEASURES (ECM)
AND DETERMINE REQUIREMENTS FOR ECM
SUBSYSTEMS AND TECHNIQUES TO INCREASE ARMY
MISSILE SYSTEM EFFECTIVENESS, AND TEST
EQUIPMENT WHICH IS A PART OF OR USED WITH
ASSIGNED MATERIEL, AND ELECTRONIC PARTS AND
MATERIALS COMMON TO ELECTRONIC MATERIEL
THROUGHOUT THE ARMY, BASIC AND APPLIED
RESEARCH CONCERNING ASSIGNED MATERIEL
DEVELOPMENT

ZIP CODE 07703

AREA CODE 201

TEL 522 9000

AUTOVON 99X XXXX

US ARMY TROOP SUPPORT COMMAND
ST. LOUIS, MO.
MG R. H. HIGGINS
INTEGRATED COMMODITY MANAGEMENT OF
SURFACE TRANSPORTATION EQUIPMENT (OTHER
THAN TACTICAL WHEELED AND GENERAL PURPOSE
VEHICLES), MAPPING AND GEODOSY EQUIPMENT FOR
THE FIELD ARMIES, ASSIGNED ELECTRIC POWER
GENERATION EQUIPMENT, CONSTRUCTION AND
SERVICES EQUIPMENT, BARRIER EQUIPMENT
(INCLUDING MINE WARFARE AND DEMOLITIONS
EQUIPMENT), BRIDGING AND STREAM CROSSING
EQUIPMENT, PETROLEUM HANDLING AND DISPENSING
EQUIPMENT, GENERAL SUPPORT EQUIPMENT AND
SUPPLIES (FIRE FIGHTING, INDUSTRIAL ENGINES,
HEATING AND AIR CONDITIONING, WATER
PURIFICATION, MATERIALS HANDLING, ETC.), TEST
EQUIPMENT, THAT IS A PART OF OR USED WITH
ASSIGNED MATERIEL, BASIC AND APPLIED RESEARCH
CONCERNING ASSIGNED MATERIEL DEVELOPMENT

ZIP CODE 63170

AREA CODE 314

TEL 573 1090

AUTOVON 985 1110

US ARMY TEST & EVALUATION COMMAND
ABERDEEN PG, MD
MG C. P. BROWN
ENGINEERING (EXCEPT AIRCRAFT PERFORMANCE,
STABILITY AND CONTROL) AND SERVICE TESTS AND
EVALUATIONS, SUPPORT ENGINEER DESIGN
PRODUCTION, AND POST PRODUCTION TESTS, AND
PARTICIPATION IN TROOP TEST PLANNING, MANAGE
AND OPERATE A NATIONAL MISSILE RANGE AT WOLFE
NEW MEXICO

ZIP CODE 21205

AREA CODE 301

TEL 278 3672

AUTOVON 878 XXXX

US ARMY ARMAMENT COMMAND
ROCK ISLAND, IL
MG J. C. RAES, JR.
INTEGRATED COMMODITY MANAGEMENT OF ARMAMENT SYSTEMS, INCLUDING ARTILLERY
WEAPONS, CREW SERVED WEAPONS, AND AIRCRAFT WEAPON SYSTEMS, FIRE CONTROL
EQUIPMENT (INCLUDING THAT INTEGRAL TO MISSILE SYSTEMS AND AIR DEFENSE FIRE
COORDINATION SYSTEMS), NUCLEAR AND NONNUCLEAR AMMUNITION, ROCKET AND
MISSILE WARHEAD SECTIONS, DEMOLITION MUNITIONS, MINES, BOMBS, GRENADES,
PYROTECHNICS, BOOSTERS, JATOS, AND GAS GENERATORS, RADIOLOGICAL MATERIEL,
PROPELLANT ACTUATED DEVICES, COMMON TYPE TOOLS AND COMMON TYPE TOOL, AND
SHOTSETS (INCLUDING DSA AND GSA ITEMS), AND TEST EQUIPMENT THAT IS A PART OF OR
USED WITH ASSIGNED MATERIEL, BASIC AND APPLIED RESEARCH CONCERNING ASSIGNED
MATERIEL DEVELOPMENT

ZIP CODE 61201

AREA CODE 309

TEL 794 8001

AUTOVON 783 6001

US ARMY ENGINEER REGT ACTV, EDWARDS
AFB, CA
US ARMY MOBILITY RSCH & DEV LAB
MORFETT FIELD, CA
US ARMY SPT CEN, ST. LOUIS AREA
GRANITE CITY, IL
TRANSPORTATION BATTALION
CORPUS CHRISTI, TX
INDUSTRIAL PLANTS
SAGINAW ARMY AIRCRAFT PLANT, FT. WORTH, TX
US ARMY BELL PLANT ACTV, HURST, TX
US ARMY BOEING-VERTEL PLANT ACTV, ST.
PHILADELPHIA, PA
US ARMY GRUMMAN PLANT ACTV, STUART, FL
US ARMY HUGHES PLANT ACTV, CULVER CITY, CA
US ARMY LOCKHEED PLANT ACTV, VAN NUYS, CA
NATIONAL MAINTENANCE POINT
US ARMY AVIATION SYSTEMS COMMAND, ST. LOUIS, MO
NATIONAL INVENTORY CONTROL POINT
US ARMY AVIATION SYSTEMS COMMAND, ST. LOUIS, MO

ZIP CODE 63166

AREA CODE 314

TEL 208 2201

AUTOVON 198 XXXX

US ARMY MISSILE COMMAND
REDSTONE ARSENAL, AL
MG V. H. ELLIS
INTEGRATED COMMODITY MANAGEMENT OF FREE
ROCKETS, GUIDED MISSILES, BALLISTIC MISSILES,
TARGET MISSILES, AIR DEFENSE MISSILE, FIRE
COORDINATION EQUIPMENT, RELATED SPECIAL
PURPOSE AND MULTI-SYSTEM TEST EQUIPMENT AND
TEST EQUIPMENT WHICH IS A PART OF OR USED
WITH ASSIGNED MATERIEL, MISSILE LAUNCHING AND
GROUND SUPPORT EQUIPMENT, MISSILE FIRE
CONTROL EQUIPMENT, AND OTHER ASSOCIATED
EQUIPMENT, BASIC AND APPLIED RESEARCH
CONCERNING ASSIGNED MATERIEL DEVELOPMENT

ZIP CODE 35809

AREA CODE 205

TEL 876 0011

AUTOVON 746 XXXX

US ARMY ELECTRONIC COMMAND
FORT MONMOUTH, NJ
MG F. FOSTER, JR.
INTEGRATED COMMODITY MANAGEMENT OF COMBAT
COMMUNICATIONS EQUIPMENT, COMMUNICATIONS
EQUIPMENT, ELECTRONIC WARFARE, AVIATION
ELECTRONICS, COMBAT SURVEILLANCE, TARGET
ACQUISITION AND NIGHT VISION EQUIPMENT,
PHOTOGRAPHIC AND MICROFILMING,
IDENTIFICATION FRIEND OR FOE SYSTEMS,
AUTOMATIC DATA PROCESSING, RADAR (EXCLUDING
THAT USED FOR FIRE CONTROL AND FIRE
COORDINATION OF AIR DEFENSE SYSTEMS ASSIGNED
TO ANOTHER COMMAND FOR MANAGEMENT),
METEOROLOGICAL AND ELECTRONIC RADIOLOGICAL
DETECTION, MATERIEL, ASSIGNED BATTERIES AND
ELECTRIC POWER GENERATION EQUIPMENT,
DETERMINE VULNERABILITY OF ARMY MISSILES AND
COMMUNICATIONS, ELECTRONIC EQUIPMENT AND
SYSTEMS TO ELECTRONIC COUNTER MEASURES (ECM)
AND DETERMINE REQUIREMENTS FOR ECM
SUBSYSTEMS AND TECHNIQUES TO INCREASE ARMY
MISSILE SYSTEM EFFECTIVENESS, AND TEST
EQUIPMENT WHICH IS A PART OF OR USED WITH
ASSIGNED MATERIEL, AND ELECTRONIC PARTS AND
MATERIALS COMMON TO ELECTRONIC MATERIEL
THROUGHOUT THE ARMY, BASIC AND APPLIED
RESEARCH CONCERNING ASSIGNED MATERIEL
DEVELOPMENT

ZIP CODE 07703

AREA CODE 201

TEL 522 9000

AUTOVON 99X XXXX

US ARMY TROOP SUPPORT COMMAND
ST. LOUIS, MO.
MG R. H. HIGGINS
INTEGRATED COMMODITY MANAGEMENT OF
SURFACE TRANSPORTATION EQUIPMENT (OTHER
THAN TACTICAL WHEELED AND GENERAL PURPOSE
VEHICLES), MAPPING AND GEODOSY EQUIPMENT FOR
THE FIELD ARMIES, ASSIGNED ELECTRIC POWER
GENERATION EQUIPMENT, CONSTRUCTION AND
SERVICES EQUIPMENT, BARRIER EQUIPMENT
(INCLUDING MINE WARFARE AND DEMOLITIONS
EQUIPMENT), BRIDGING AND STREAM CROSSING
EQUIPMENT, PETROLEUM HANDLING AND DISPENSING
EQUIPMENT, GENERAL SUPPORT EQUIPMENT AND
SUPPLIES (FIRE FIGHTING, INDUSTRIAL ENGINES,
HEATING AND AIR CONDITIONING, WATER
PURIFICATION, MATERIALS HANDLING, ETC.), TEST
EQUIPMENT, THAT IS A PART OF OR USED WITH
ASSIGNED MATERIEL, BASIC AND APPLIED RESEARCH
CONCERNING ASSIGNED MATERIEL DEVELOPMENT

ZIP CODE 63170

AREA CODE 314

TEL 573 1090

AUTOVON 985 1110

US ARMY TEST & EVALUATION COMMAND
ABERDEEN PG, MD
MG C. P. BROWN
ENGINEERING (EXCEPT AIRCRAFT PERFORMANCE,
STABILITY AND CONTROL) AND SERVICE TESTS AND
EVALUATIONS, SUPPORT ENGINEER DESIGN
PRODUCTION, AND POST PRODUCTION TESTS, AND
PARTICIPATION IN TROOP TEST PLANNING, MANAGE
AND OPERATE A NATIONAL MISSILE RANGE AT WOLFE
NEW MEXICO

ZIP CODE 21205

AREA CODE 301

TEL 278 3672

AUTOVON 878 XXXX

US ARMY ARMAMENT COMMAND
ROCK ISLAND, IL
MG J. C. RAES, JR.
INTEGRATED COMMODITY MANAGEMENT OF ARMAMENT SYSTEMS, INCLUDING ARTILLERY
WEAPONS, CREW SERVED WEAPONS, AND AIRCRAFT WEAPON SYSTEMS, FIRE CONTROL
EQUIPMENT (INCLUDING THAT INTEGRAL TO MISSILE SYSTEMS AND AIR DEFENSE FIRE
COORDINATION SYSTEMS), NUCLEAR AND NONNUCLEAR AMMUNITION, ROCKET AND
MISSILE WARHEAD SECTIONS, DEMOLITION MUNITIONS, MINES, BOMBS, GRENADES,
PYROTECHNICS, BOOSTERS, JATOS, AND GAS GENERATORS, RADIOLOGICAL MATERIEL,
PROPELLANT ACTUATED DEVICES, COMMON TYPE TOOLS AND COMMON TYPE TOOL, AND
SHOTSETS (INCLUDING DSA AND GSA ITEMS), AND TEST EQUIPMENT THAT IS A PART OF OR
USED WITH ASSIGNED MATERIEL, BASIC AND APPLIED RESEARCH CONCERNING ASSIGNED
MATERIEL DEVELOPMENT

ZIP CODE 61201

AREA CODE 309

TEL 794 8001

AUTOVON 783 6001

US ARMY ENGINEER REGT ACTV, EDWARDS
AFB, CA
US ARMY MOBILITY RSCH & DEV LAB
MORFETT FIELD, CA
US ARMY SPT CEN, ST. LOUIS AREA
GRANITE CITY, IL
TRANSPORTATION BATTALION
CORPUS CHRISTI, TX
INDUSTRIAL PLANTS
SAGINAW ARMY AIRCRAFT PLANT, FT. WORTH, TX
US ARMY BELL PLANT ACTV, HURST, TX
US ARMY BOEING-VERTEL PLANT ACTV, ST.
PHILADELPHIA, PA
US ARMY GRUMMAN PLANT ACTV, STUART, FL
US ARMY HUGHES PLANT ACTV, CULVER CITY, CA
US ARMY LOCKHEED PLANT ACTV, VAN NUYS, CA
NATIONAL MAINTENANCE POINT
US ARMY AVIATION SYSTEMS COMMAND, ST. LOUIS, MO
NATIONAL INVENTORY CONTROL POINT
US ARMY AVIATION SYSTEMS COMMAND, ST. LOUIS, MO

ZIP CODE 63166

AREA CODE 314

TEL 208 2201

AUTOVON 198 XXXX

US ARMY MISSILE COMMAND
REDSTONE ARSENAL, AL
MG V. H. ELLIS
INTEGRATED COMMODITY MANAGEMENT OF FREE
ROCKETS, GUIDED MISSILES, BALLISTIC MISSILES,
TARGET MISSILES, AIR DEFENSE MISSILE, FIRE
COORDINATION EQUIPMENT, RELATED SPECIAL
PURPOSE AND MULTI-SYSTEM TEST EQUIPMENT AND
TEST EQUIPMENT WHICH IS A PART OF OR USED
WITH ASSIGNED MATERIEL, MISSILE LAUNCHING AND
GROUND SUPPORT EQUIPMENT, MISSILE FIRE
CONTROL EQUIPMENT, AND OTHER ASSOCIATED
EQUIPMENT, BASIC AND APPLIED RESEARCH
CONCERNING ASSIGNED MATERIEL DEVELOPMENT

ZIP CODE 35809

AREA CODE 205

TEL 876 0011

AUTOVON 746 XXXX

US ARMY ELECTRONIC COMMAND
FORT MONMOUTH, NJ
MG F. FOSTER, JR.
INTEGRATED COMMODITY MANAGEMENT OF COMBAT
COMMUNICATIONS EQUIPMENT, COMMUNICATIONS
EQUIPMENT, ELECTRONIC WARFARE, AVIATION
ELECTRONICS, COMBAT SURVEILLANCE, TARGET
ACQUISITION AND NIGHT VISION EQUIPMENT,
PHOTOGRAPHIC AND MICROFILMING,
IDENTIFICATION FRIEND OR FOE SYSTEMS,
AUTOMATIC DATA PROCESSING, RADAR (EXCLUDING
THAT USED FOR FIRE CONTROL AND FIRE
COORDINATION OF AIR DEFENSE SYSTEMS ASSIGNED
TO ANOTHER COMMAND FOR MANAGEMENT),
METEOROLOGICAL AND ELECTRONIC RADIOLOGICAL
DETECTION, MATERIEL, ASSIGNED BATTERIES AND
ELECTRIC POWER GENERATION EQUIPMENT,
DETERMINE VULNERABILITY OF ARMY MISSILES AND
COMMUNICATIONS, ELECTRONIC EQUIPMENT AND
SYSTEMS TO ELECTRONIC COUNTER MEASURES (ECM)
AND DETERMINE REQUIREMENTS FOR ECM
SUBSYSTEMS AND TECHNIQUES TO INCREASE ARMY
MISSILE SYSTEM EFFECTIVENESS, AND TEST
EQUIPMENT WHICH IS A PART OF OR USED WITH
ASSIGNED MATERIEL, AND ELECTRONIC PARTS AND
MATERIALS COMMON TO ELECTRONIC MATERIEL
THROUGHOUT THE ARMY, BASIC AND APPLIED
RESEARCH CONCERNING ASSIGNED MATERIEL
DEVELOPMENT

ZIP CODE 07703

AREA CODE 201

TEL 522 9000

AUTOVON 99X XXXX

US ARMY TROOP SUPPORT COMMAND
ST. LOUIS, MO.
MG R. H. HIGGINS
INTEGRATED COMMODITY MANAGEMENT OF
SURFACE TRANSPORTATION EQUIPMENT (OTHER
THAN TACTICAL WHEELED AND GENERAL PURPOSE
VEHICLES), MAPPING AND GEODOSY EQUIPMENT FOR
THE FIELD ARMIES, ASSIGNED ELECTRIC POWER
GENERATION EQUIPMENT, CONSTRUCTION AND
SERVICES EQUIPMENT, BARRIER EQUIPMENT
(INCLUDING MINE WARFARE AND DEMOLITIONS
EQUIPMENT), BRIDGING AND STREAM CROSSING
EQUIPMENT, PETROLEUM HANDLING AND DISPENSING
EQUIPMENT, GENERAL SUPPORT EQUIPMENT AND
SUPPLIES (FIRE FIGHTING, INDUSTRIAL ENGINES,
HEATING AND AIR CONDITIONING, WATER
PURIFICATION, MATERIALS HANDLING, ETC.), TEST
EQUIPMENT, THAT IS A PART OF OR USED WITH
ASSIGNED MATERIEL, BASIC AND APPLIED RESEARCH
CONCERNING ASSIGNED MATERIEL DEVELOPMENT

ZIP CODE 63170

AREA CODE 314

TEL 573 1090

AUTOVON 985 1110

US ARMY TEST & EVALUATION COMMAND
ABERDEEN PG, MD
MG C. P. BROWN
ENGINEERING (EXCEPT AIRCRAFT PERFORMANCE,
STABILITY AND CONTROL) AND SERVICE TESTS AND
EVALUATIONS, SUPPORT ENGINEER DESIGN
PRODUCTION, AND POST PRODUCTION TESTS, AND
PARTICIPATION IN TROOP TEST PLANNING, MANAGE
AND OPERATE A NATIONAL MISSILE RANGE AT WOLFE
NEW MEXICO

ZIP CODE 21205

AREA CODE 301

TEL 278 3672

AUTOVON 878 XXXX

US ARMY ARMAMENT COMMAND
ROCK ISLAND, IL
MG J. C. RAES, JR.
INTEGRATED COMMODITY MANAGEMENT OF ARMAMENT SYSTEMS, INCLUDING ARTILLERY
WEAPONS, CREW SERVED WEAPONS, AND AIRCRAFT WEAPON SYSTEMS, FIRE CONTROL
EQUIPMENT (INCLUDING THAT INTEGRAL TO MISSILE SYSTEMS AND AIR DEFENSE FIRE
COORDINATION SYSTEMS), NUCLEAR AND NONNUCLEAR AMMUNITION, ROCKET AND
MISSILE WARHEAD SECTIONS, DEMOLITION MUNITIONS, MINES, BOMBS, GRENADES,
PYROTECHNICS, BOOSTERS, JATOS, AND GAS GENERATORS, RADIOLOGICAL MATERIEL,
PROPELLANT ACTUATED DEVICES, COMMON TYPE TOOLS AND COMMON TYPE TOOL, AND
SHOTSETS (INCLUDING DSA AND GSA ITEMS), AND TEST EQUIPMENT THAT IS A PART OF OR
USED WITH ASSIGNED MATERIEL, BASIC AND APPLIED RESEARCH CONCERNING ASSIGNED
MATERIEL DEVELOPMENT

ZIP CODE 61201

AREA CODE 309

TEL 794 8001

AUTOVON 783 6001

DISTRIBUTION LIST

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Aviation Office	1
Battlefield Systems Integration	1
Chaplain	1
Command Counsel	1
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Nuclear Munitions	1
Patriot, US Army Missile Cmd	1
SANG	1
Satellite Communications	1
SMOKE Training Devices	1
UTTAS	1
XM-1 Tank System	1

Major Subordinate Commands

Armament Command	41
Aviation Systems Command	13
Depot Systems Command	19
Electronics Command	19
International Logistics Cmd	2
Missile Command	19
Mobility Equipment R&D Cmd	2
Natick R&D Command	1
Tank-Automotive Materiel Readiness Command	8
Tank-Automotive Research and Development Command	4
Test and Evaluation Command	8
Troop Support Command	3

Separate Installations & Activities

Automated Log Sys Agcy	1
Ballistics Research Labs	1
Catalog Data Agcy	1
Equipment Authorization Review Activity	1
Foreign Science & Technology Center	1
Harry Diamond Labs	1
Human Engineering Labs	1
Installation & Svcs Agcy	1
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FORSCOM	1
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Materials and Mechanics Research Center	1
Materiel Systems Analysis Activ	1
Military Packaging Training Ctr	1

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Army War College	2
Center of Military History	2
FORSCOM	2
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TRADOC	2

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